SECTION LAN

LAN SYSTEM

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HOW TO USE THIS MANUAL

HOW TO USE THIS SECTION

Abbreviation List

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Unit name abbreviations in CONSULT CAN diagnosis and in this section are as per the following list.

Abbreviation	Unit name
4WD	AWD control unit
A-BAG	Air bag diagnosis sensor unit
ABS	Electronic stability program control unit
ADP	Driver seat control unit
ANC	Active noise control unit
AV	Display control unit
AVM	Around view monitor control unit
BCM	BCM
CGW	CAN gateway
DCUFL	Left front door control unit
DCUFR	Right front door control unit
DLC	Data link connector
ECM	ECM
EHS/PKB	Electric parking brake control module
E-IG SW	Electronic ignition switch control unit
EPS/DAST 3	EPS control unit
E-SHIFT	Electric shift control unit
FPCM	Fuel pump control module
Fr CAM	Front camera unit
H/L L	Headlamp control unit LH
H/L R	Headlamp control unit RH
HVAC	A/C auto amp.
ICC	ICC sensor
I-KEY	Intelligent Key unit
M&A	Combination meter
PARK	Sonar control unit
PCM	PCM
PDEC	Potential distributor electrical connector
PS CU	Passenger seat control unit
Radar	Distance sensor
RDR-L	Side radar LH
RDR-R	Side radar RH
SCCM	Steering column control module
Siren CU	Siren control unit
TCM	TCM
TCU	TCU
TPMS	Low tire pressure warning control unit
TR C/U	Trailer recognition control unit

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

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Risk of injury

There is a risk of injury caused by parts becoming projectiles if uncontrolled deployment of air bag or seat belt pre-tensioner occurs, or by storing air bag with the deployment side facing downwards. When scrapping air bag or seat belt pre-tensioner by means of controlled deployment, there is also a danger present if a sufficiently safe distance is not maintained, or if opening using cutting torches or other cutting tools, or due to smelting or if parts that are not yet triggered are exposed to a blaze or a smoldering fire at landfills.

Safety instructions/precautions

- Removed air bag must always be stored with deployment side facing up.
- Acquisition, transportation, storage, testing and assembly work should only be performed or supervised by properly trained personnel.
- Install air bag or seat belt pre-tensioner immediately following retrieval from storage.
- Air bag and seat belt pre-tensioner must be protected from flying sparks, open fires and temperature exceeding 100°C (212°F).
- Never transport air bag and seat belt pre-tensioner in the passenger compartment. Store them securely in the luggage room of the vehicle in their original replacement part packaging and secure them so that they cannot slip around.
- Never allow air bag and seat belt pre-tensioner to come into contact with grease, oil, or cleaning agents.
- Perform system tests using approved testing equipment only, and only when the units are properly installed and the vehicle is unoccupied.
- Before the initial hookup of the battery or an external power supply, the ignition must be switched on and the vehicle unoccupied.
- Air bag and seat belt pre-tensioner that fall from a height of more than 0.5 m must be replaced.
- When scrapping by means of controlled deployment of air bag and seat belt pre-tensioner, a safe distance of at least 10 m must be maintained.
- Before starting work on air bag and seat belt pre-tensioner and work on components that are connected to air bag and seat belt pre-tensioner or require and intervention in their electric circuit (e.g. when removing the steering wheel):

- Disconnect any external power sources (e.g. charger).
- Disconnect and insulate ground line of battery

- Before starting bodywork in combination with welding or retrofitting, during which work is performed on uninsulated, current-carrying lines or require an intervention in their electric circuit (e.g. when removing the steering wheel):

- Disconnect any external power sources (e.g. charger).
- Disconnect and insulate ground line of battery.
- During welding, disconnect plug connection and from control unit of air bag.

- When the air bag deploys, the pyrofuse activates and the power source from the battery is disconnected. This prevents possible fires caused by electric leakage after an accident occurs.

Precautions for Removing Battery Terminal

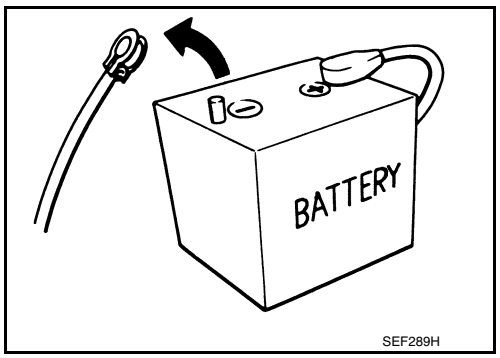
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When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:

BR08DE	: 4 minutes	YD25DDTi	: 2 minutes
D4D engine	: 20 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		
V9X engine	: 4 minutes		



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NOTE:
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

NOTE:
- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
  - Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
  - Driving for 30 minutes or more on a steep slope.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

NOTE:
If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

NOTE:
The removal of 12V battery may cause a DTC detection error.

Precautions for Trouble Diagnosis

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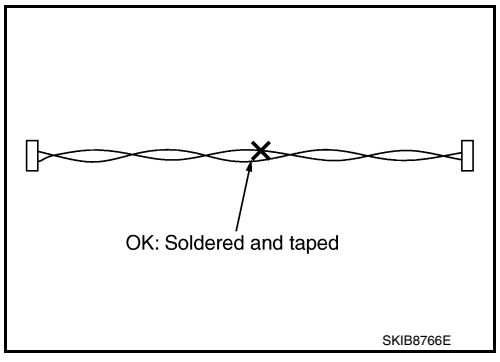
CAUTION:
Follow the instructions listed below. Failure to do this may cause damage to parts:
- **Never apply 7.0 V or more to the measurement terminal.**
- **Use a tester with open terminal voltage of 7.0 V or less.**
- **Turn the ignition switch OFF and disconnect the battery cable from the negative terminal when checking the harness.**

Precautions for Harness Repair

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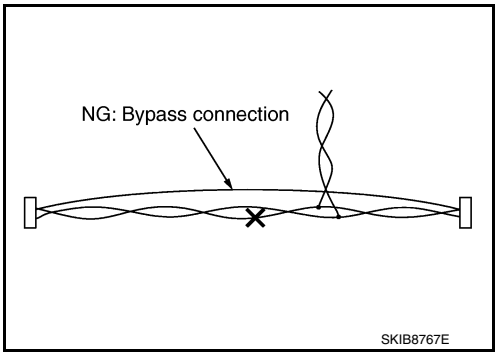
- Solder the repaired area and wrap tape around the soldered area.

NOTE:
A fray of twisted lines must be within 110 mm (4.33 in).



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- Bypass connection is never allowed at the repaired area.
  NOTE:
  Bypass connection may cause CAN communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



- Replace the applicable harness as an assembly if error is detected on the shield lines of CAN communication line.

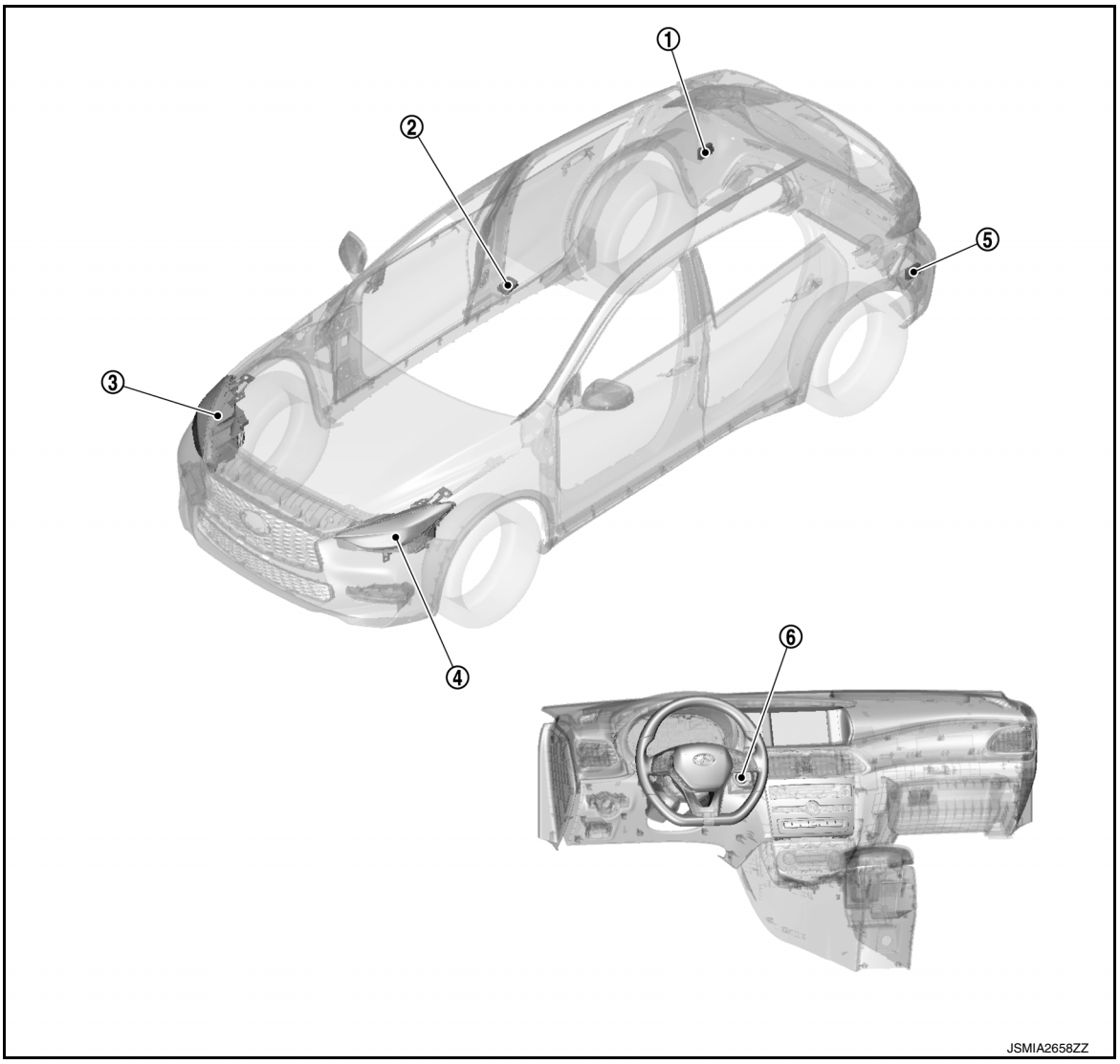
SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

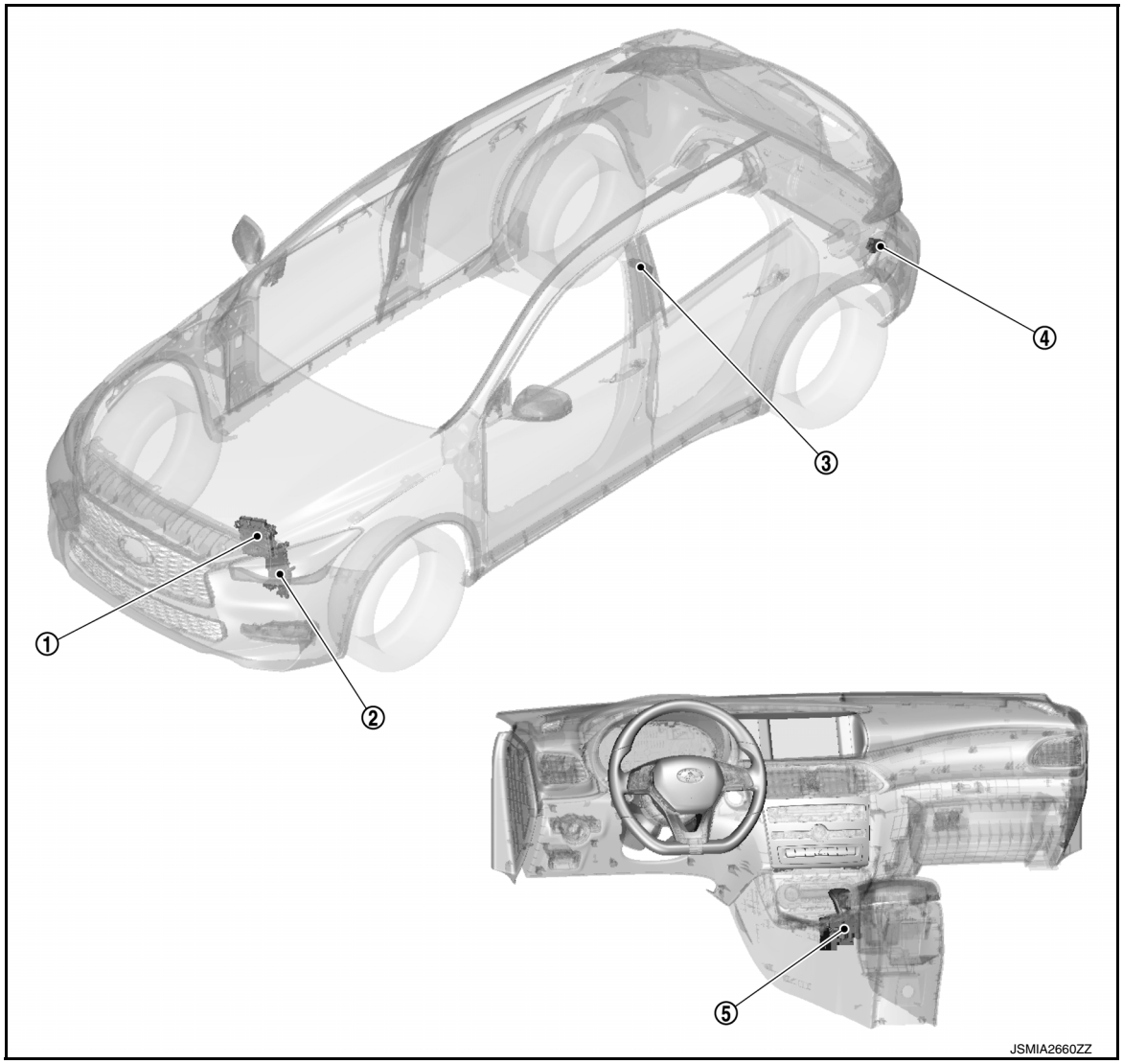
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FRONT END CAN COMMUNICATION



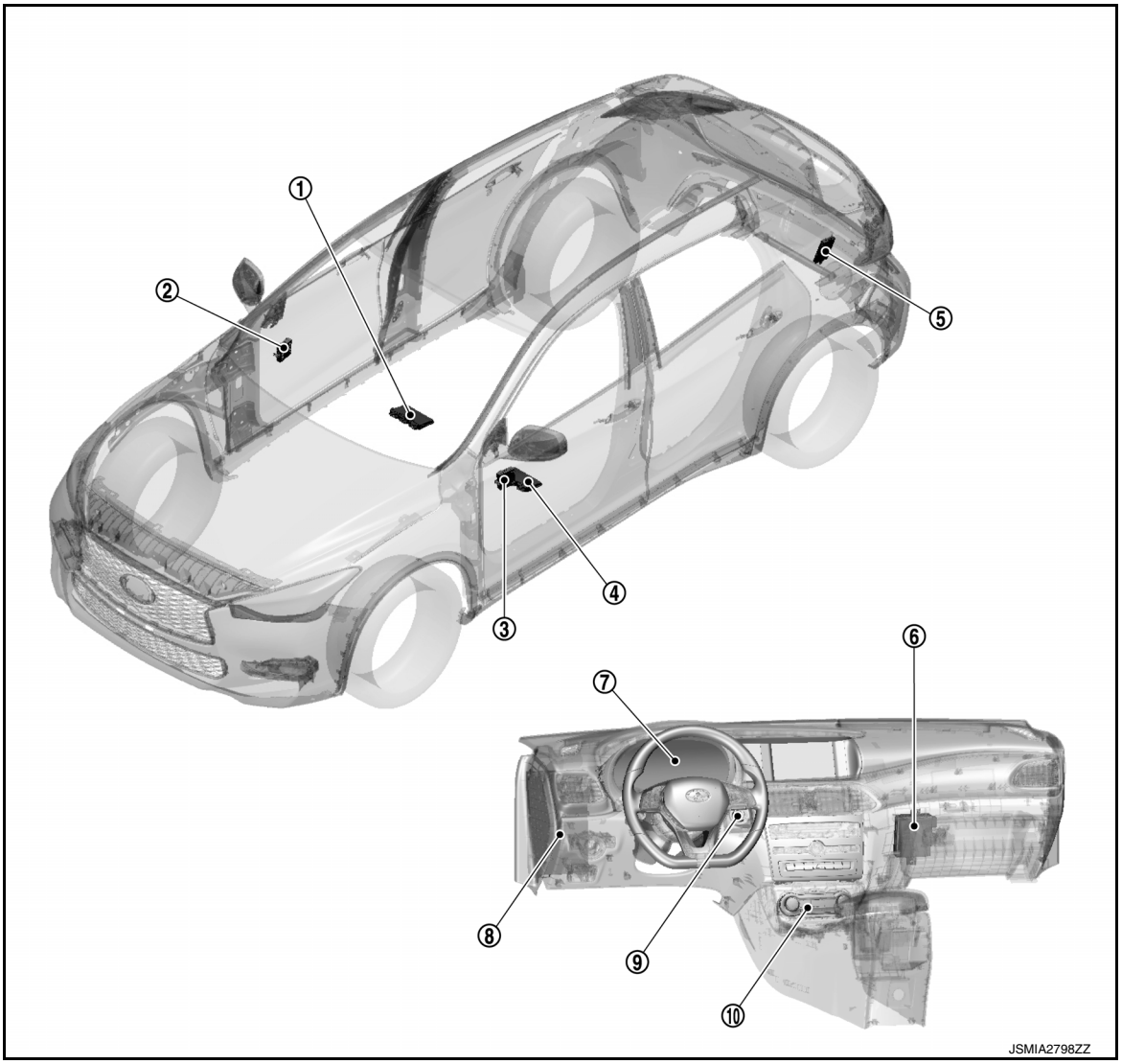
① Side radar RH	② Front camera unit	③ Headlamp control unit RH
④ Headlamp control unit LH	⑤ Side radar LH	⑥ Electronic ignition switch control unit

POWERTRAIN CAN COMMUNICATION



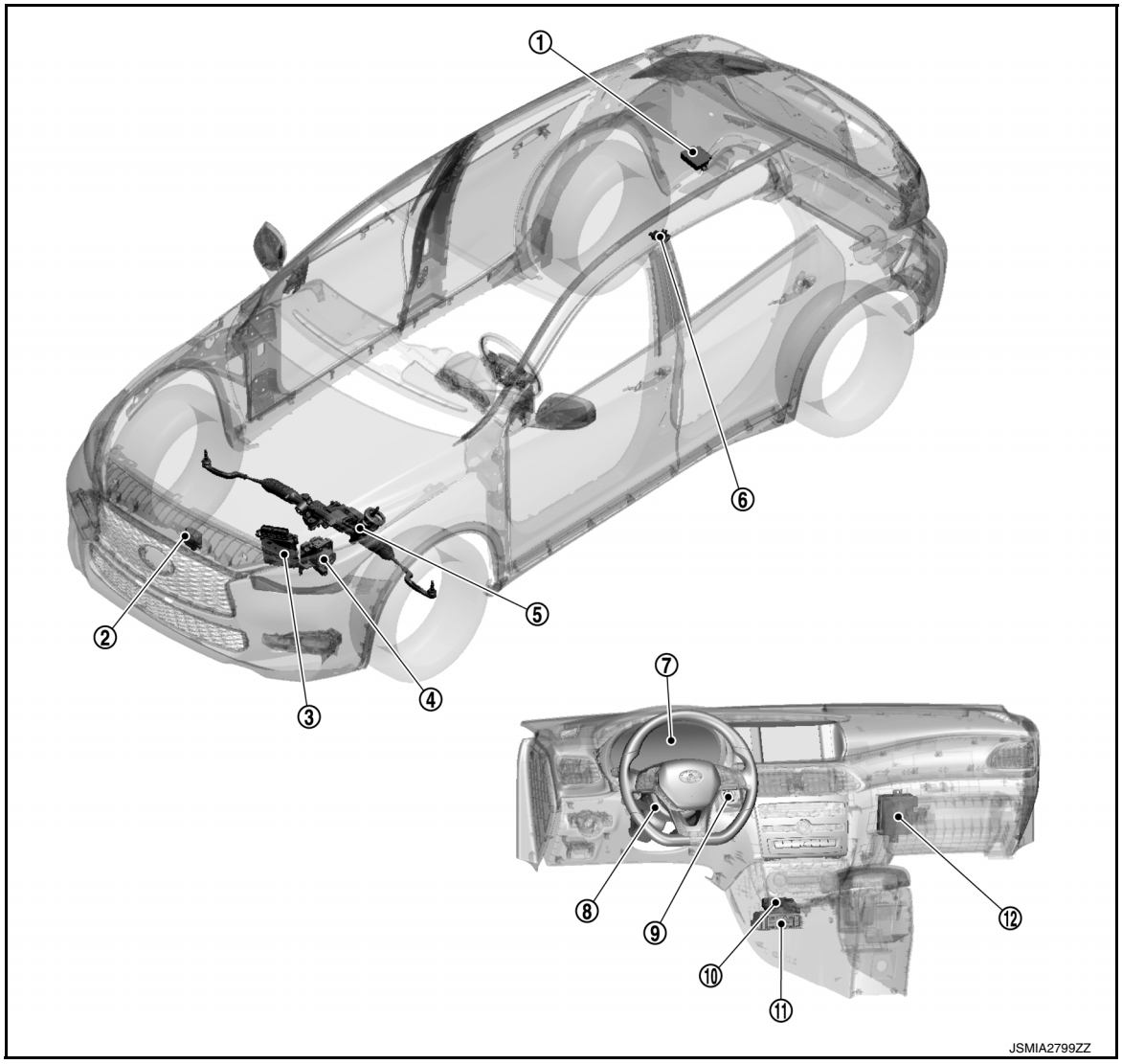
① ECM
② TCM
③ Fuel pump control module
④ AWD control unit
⑤ Electric shift control unit

BODY CAN COMMUNICATION 1 & 2



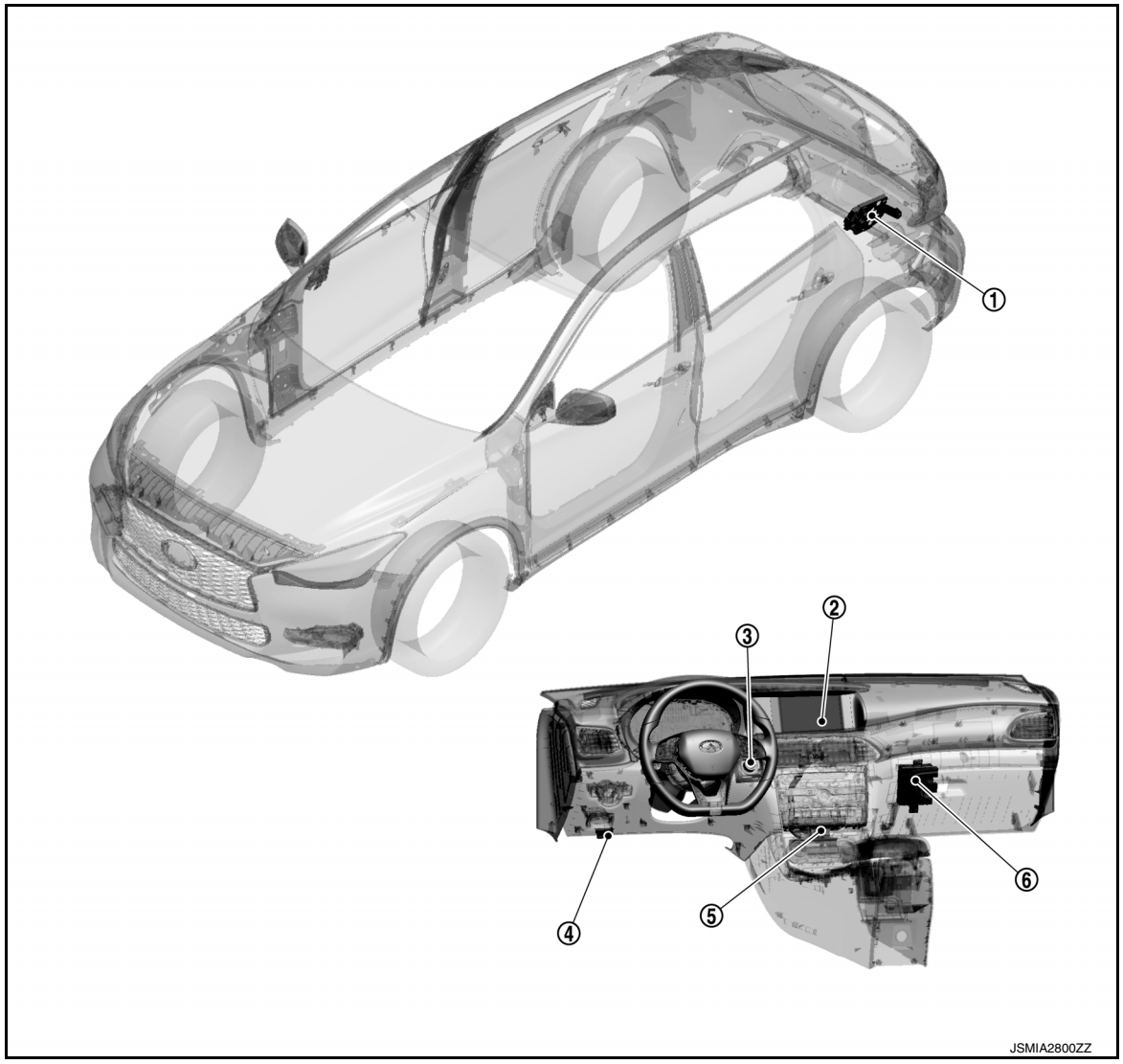
① Passenger seat control unit
② Right front door control unit
③ Left front door control unit
④ Driver seat control unit
⑤ Intelligent Key unit
⑥ CAN gateway
⑦ Combination meter
⑧ BCM
⑨ Electronic ignition switch control unit
⑩ A/C auto amp.

CHASSIS CAN COMMUNICATION



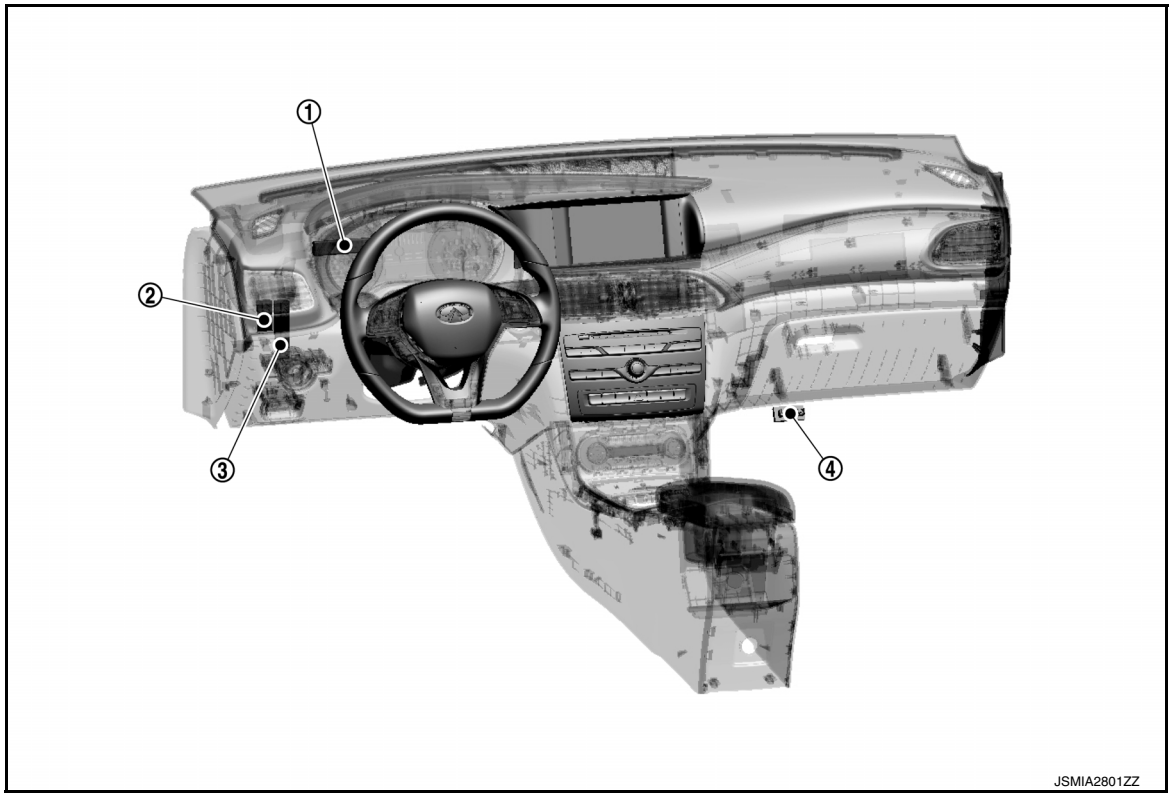
① Electric parking brake control module	② ICC sensor	③ ECM
④ Electronic stability program control unit	⑤ EPS control unit	⑥ Low tire pressure warning control unit
⑦ Combination meter	⑧ Steering column control module	⑨ Electronic ignition switch control unit
⑩ Sonar control unit	⑪ Air bag diagnosis sensor unit	⑫ CAN gateway

DIAGNOSIS CAN COMMUNICATION & MULTIFUNCTION MEDIA CAN COMMUNICATION



① Around view monitor control unit
② Display control unit
③ Electronic ignition switch control unit
④ Data link connector
⑤ TCU
⑥ CAN gateway

CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR

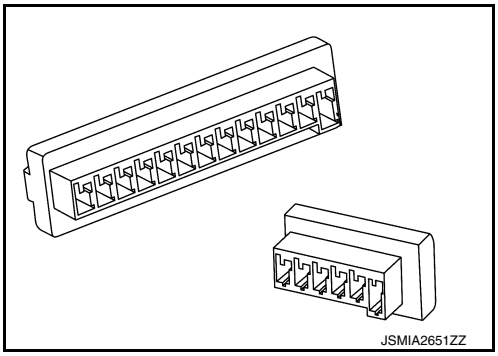


① CAN potential distributor electrical connector (BODY)
② CAN potential distributor electrical connector (POWERTRAIN)
③ CAN potential distributor electrical connector (CHASSIS)
④ CAN potential distributor electrical connector (FRONT END)

CAN Potential Distributor Electrical Connector

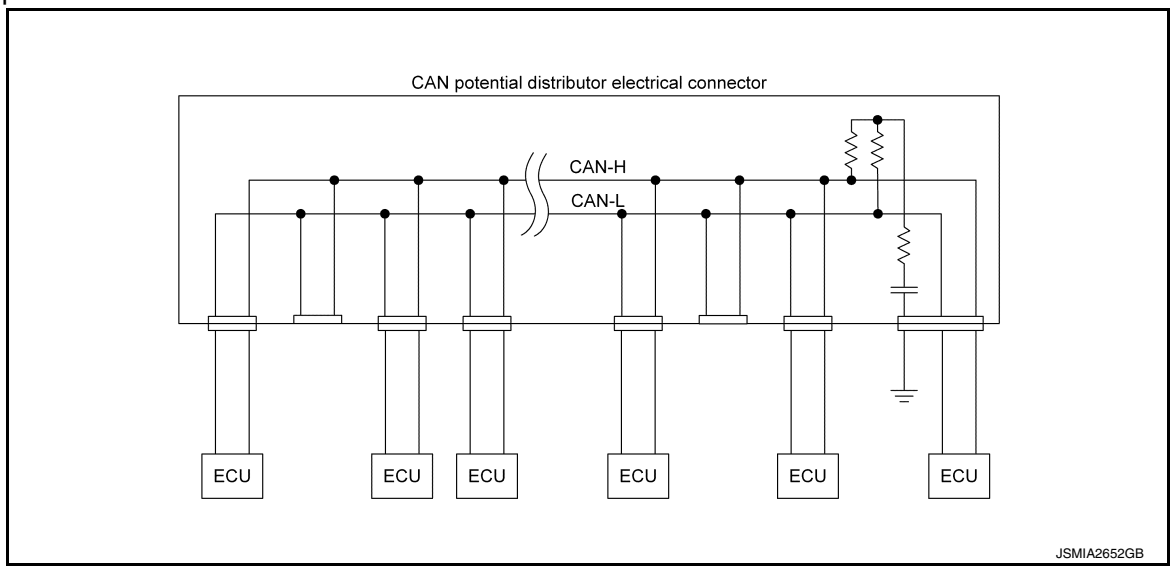
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- Each ECU is joined with CAN potential distributor electrical connector that distributes CAN communication signal.
- CAN potential distributor electrical connector has same shape connector (slot) in parallel and connects ECU on each network.



CAN potential distributor electrical connector	The number of slots (Connector)
Powertrain	6
Front end	6
Body	13
Chassis	13

• CAN potential distributor electrical connector has built-in resistance and condenser.



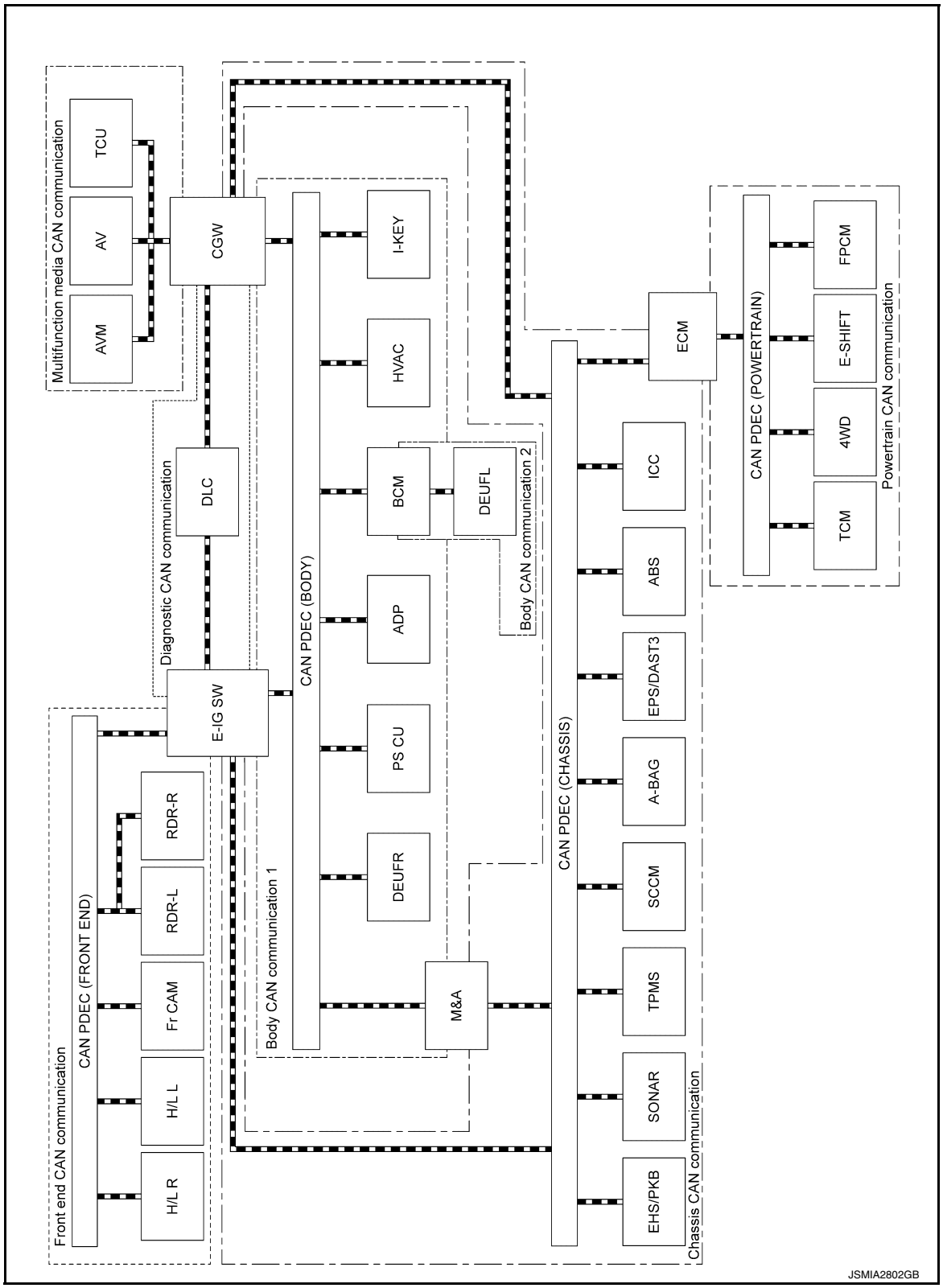
SYSTEM
CAN COMMUNICATION SYSTEM
CAN COMMUNICATION SYSTEM : System Description

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SYSTEM DIAGRAM

NOTE:

Refer to LAN-5, "Abbreviation List" for the abbreviations.



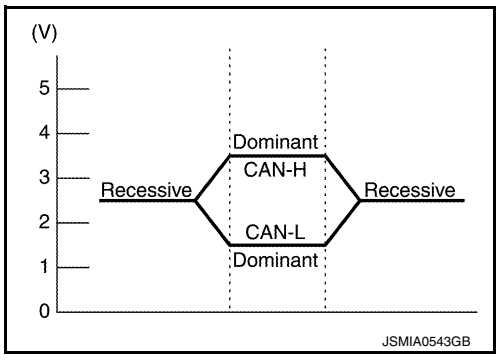
DESCRIPTION

- CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
- The following control units include a gateway function and communicate signals between the different CAN communication circuits.

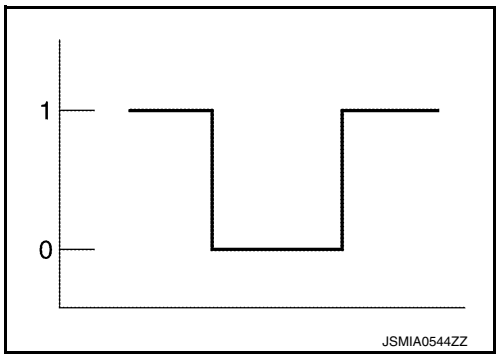
CAN communication circuit	Gateway control unit	Reference
• Diagnostic CAN communication (Data link connector) • Body CAN communication 1 • Chassis CAN communication • Multifunction media CAN communication	CAN gateway	LAN-151
• Diagnostic CAN communication (Data link connector) • Body CAN communication 1 • Front end CAN communication • Chassis CAN communication	Electronic ignition switch control unit	PCS-7
• Body CAN communication 1 • Body CAN communication 2	BCM	—
• Chassis CAN communication • Powertrain CAN communication	ECM	EC-40

CAN Communication Signal Generation

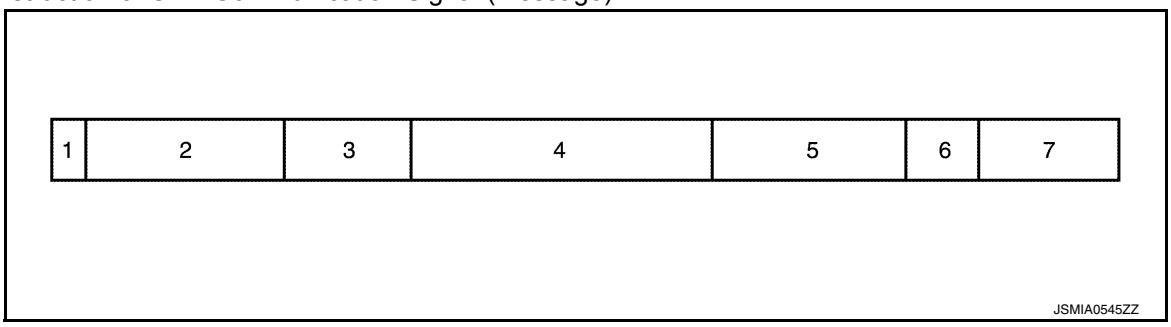
- Termination circuits (resistors) are connected across the CAN communication system. When transmitting a CAN communication signal, each control unit passes a current to the CAN-H line and the current returns to the CAN-L line.
- The current flows separately into the termination circuits connected across the CAN communication system and the termination circuits drop voltage to generate a potential difference between the CAN-H line and the CAN-L line.
  NOTE:
  A signal with no current passage is called “Recessive” and one with current passage is called “Dominant”.



- The system produces digital signals for signal communications, by using the potential difference.



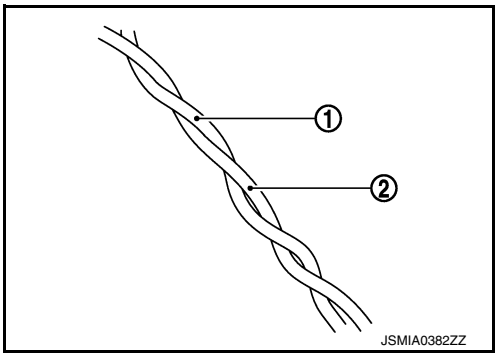
The Construction of CAN Communication Signal (Message)



No.	Message name	Description
1	Start of frame (1 bit)	Start of message.
2	Arbitration of field (11 bit)	Priorities of message-sending are shown when there is a possibility that multiple messages are sent at the same time.
3	Control field (6 bit)	Signal quantity in data field is shown.
4	Data field (0-64 bit)	Actual signal is shown.
5	CRC field (16 bit)	• The transmitting control unit calculates sending data in advance and writes the calculated value in a message. • The receiving control unit calculates received data and judges that the data reception is normal when the calculated value is the same as the value written in the sent data.
6	ACK field (2 bit)	The completion of normal reception is sent to the transmitting unit.
7	End of frame (7 bit)	End of message.

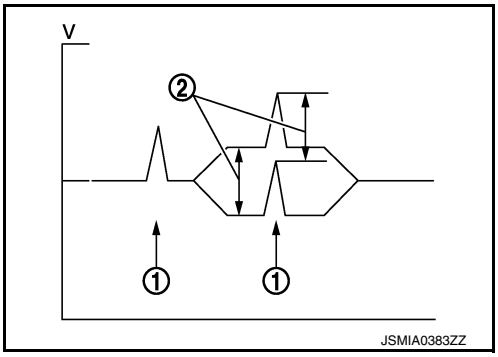
CAN Communication Line

The CAN communication line is a twisted pair wire consisting of strands of CAN-H ① and CAN-L ② and has noise immunity.



NOTE:
The CAN communication system has the characteristics of noise-resistant because this system produces digital signals by using the potential difference between the CAN-H line and the CAN-L line and has the twisted pair wire structure.

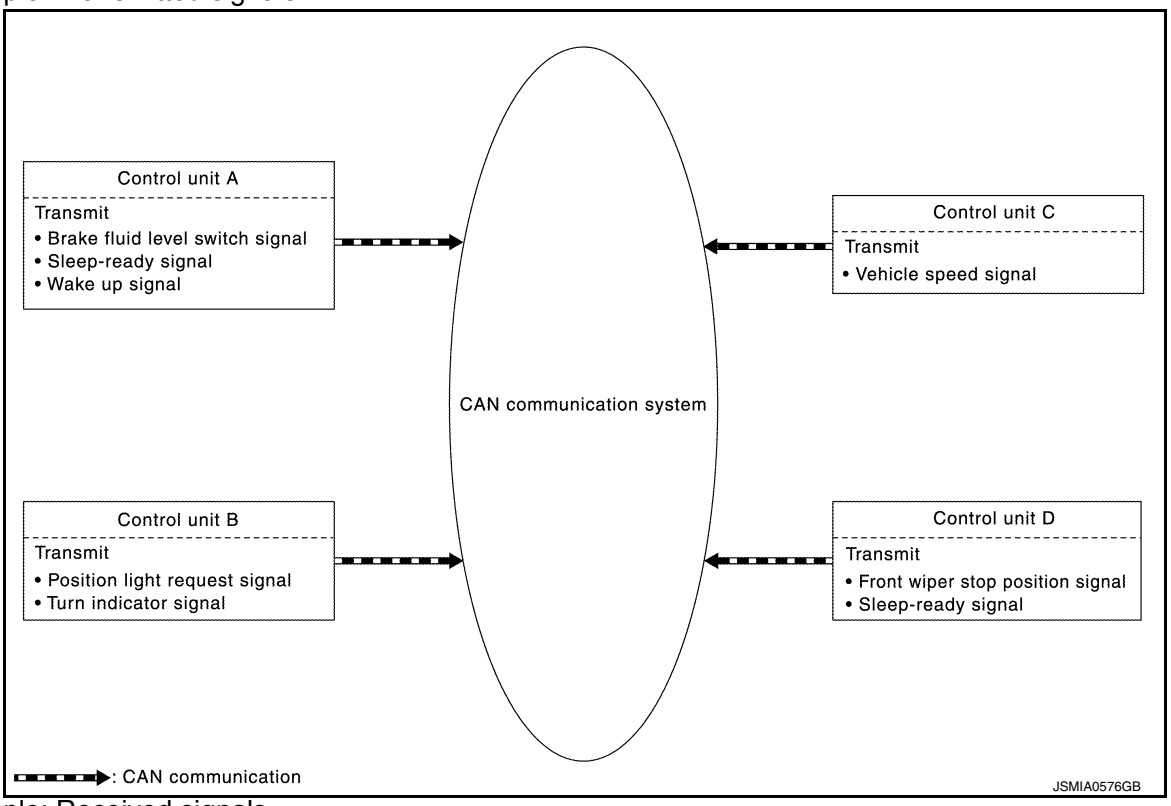
Since the CAN-H line and the CAN-L line are always adjacent to each other, the same degree of noise occurs, respectively, when a noise ① occurs. Although the noise changes the voltage, the potential difference ② between the CAN-H line and the CAN-L line is insensitive to noise. Therefore, noise-resistant signals can be obtained.



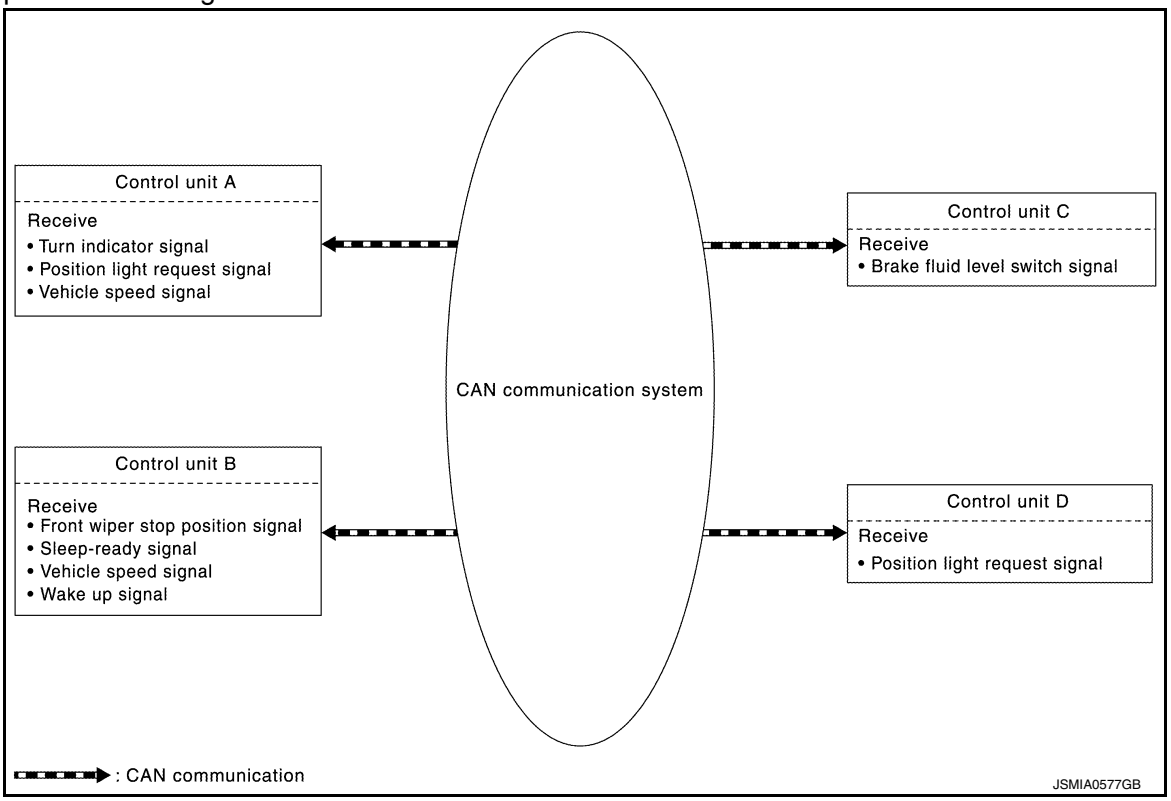
CAN Signal Communications

Each control unit of the CAN communication system transmits signals through the CAN communication control circuit included in the control unit and receives only necessary signals from each control unit to perform various kinds of control.

- Example: Transmitted signals



- Example: Received signals



CAN COMMUNICATION SYSTEM : CAN System Specification Chart

INFOID:0000000013768074

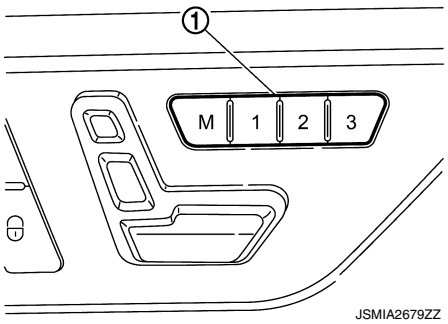
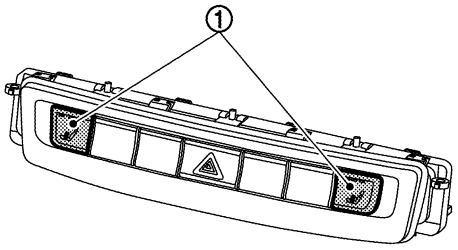
Determine CAN system type from the following specification chart.

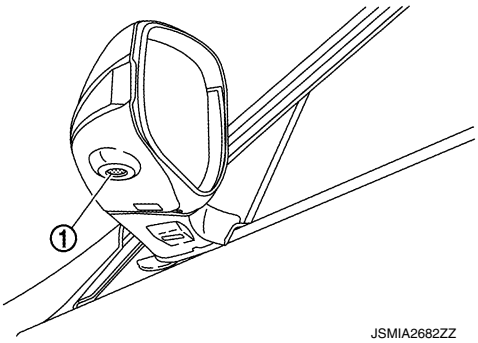
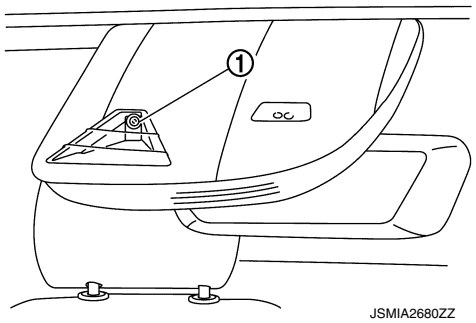
Body type	4 door hatchback				
Engine	1.6L turbo gas-oline	2.0L turbo gasoline			
Around view monitor system			×		×
Telematics system				×	×
CAN system type	1	2	3	4	5
Diagnostic CAN communication control unit					
Data link connector	×	×	×	×	×
Electronic ignition switch control unit	×	×	×	×	×
CAN gateway	×	×	×	×	×
Front end CAN communication control unit					
Electronic ignition switch control unit	×	×	×	×	×
Headlamp control unit LH	×	×	×	×	×
Headlamp control unit RH	×	×	×	×	×
Front camera unit		×	×	×	×
Side radar LH		×	×	×	×
Side radar RH		×	×	×	×
Body CAN communication 1 control unit					
Electronic ignition switch control unit	×	×	×	×	×
Combination meter	×	×	×	×	×
Right front door control unit	×	×	×	×	×
Passenger seat control unit		×	×	×	×
Driver seat control unit		×	×	×	×
BCM	×	×	×	×	×
A/C auto amp.	×	×	×	×	×
Intelligent Key unit	×	×	×	×	×
CAN gateway	×	×	×	×	×
Body CAN communication 2 control unit					
BCM	×	×	×	×	×
Left front door control unit	×	×	×	×	×
Chassis CAN communication control unit					
Electronic ignition switch control unit	×	×	×	×	×
Combination meter	×	×	×	×	×
Electric parking brake control module	×	×	×	×	×
Sonar control unit		×	×	×	×
Low tire pressure warning control unit	×	×	×	×	×
Steering column control module	×	×	×	×	×
Air bag diagnosis sensor unit	×	×	×	×	×
EPS control unit	×	×	×	×	×
Erectronic stability program control unit	×	×	×	×	×
ICC sensor		×	×	×	×
ECM	×	×	×	×	×
CAN gateway	×	×	×	×	×
Powertrain CAN communication control unit					
ECM	×	×	×	×	×

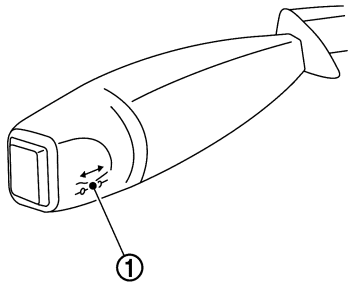
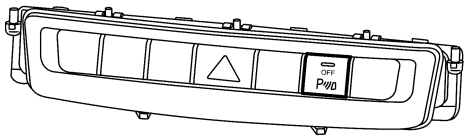
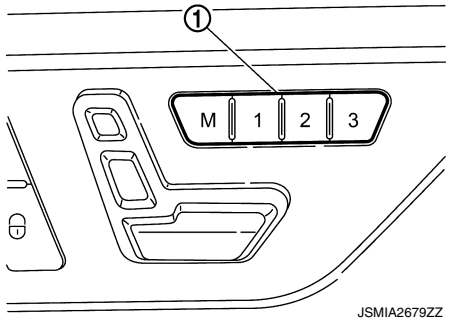
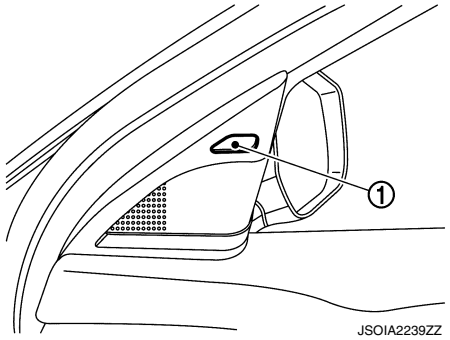
Body type	4 door hatchback				
Engine	1.6L turbo gasoline	2.0L turbo gasoline			
Around view monitor system			×		×
Telematics system				×	×
CAN system type	1	2	3	4	5
TCM	×	×	×	×	×
AWD control unit		×	×	×	×
Electric shift control unit	×	×	×	×	×
Fuel pump control module	×	×	×	×	×
Multifunction media CAN communication control unit					
CAN gateway	×	×	×	×	×
Display control unit	×	×	×	×	×
Around view monitor control unit			×		×
TCU				×	×

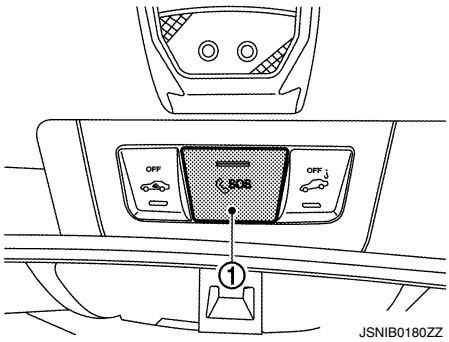
CAN COMMUNICATION SYSTEM : Vehicle Equipment Identification Information

INFOID:0000000013768075

CAN diagnosis display	Unit name	Section	Equipment	Note (How to identify)
4WD	AWD control unit	DLN	AWD models	—
A-BAG	Air bag diagnosis sensor unit	SRS	ALL models	—
ABS	Electronic stability program control unit	BRC	ALL models	—
ADP	Driver seat control unit	ADP	With automatic drive positioner system	Find seat memory switch ① on the front door finisher.  JSMIA2679ZZ
		SE	• Without automatic drive positioner system • With heated seat system	Find heated seat switch ① on the upper control panel control unit.  JMJIB1750ZZ

CAN diagnosis display	Unit name	Section	Equipment	Note (How to identify)
AV	Display control unit	AV	With audio system (With display)	—
AVM	Around view monitor control unit	AV	With around view monitor system	Find side camera ① the door mirror.  JSMIA2682ZZ
BCM	BCM	BCS	ALL models	—
CGW	CAN gateway	LAN	With audio system (With display)	—
DCUFL	Left front door control unit	DLK	ALL models	—
DCUFR	Right front door control unit			
ECM	ECM	EC	ALL models	—
EHS/PKB	Electric parking brake control module	PB	ALL models	—
E-IG SW	Electronic ignition switch control unit	PCS	ALL models	—
EPS/DAST 3	EPS control unit	STC	ALL models	—
E-SHIFT	Electric shift control unit	TM	7DCT models	—
FPCM	Fuel pump control module	EC	ALL models	—
Fr CAM	Front camera unit	DAS	With Lane Departure Warning (LDW) system	Find front camera unit ① on the windshield.  JSMIA2680ZZ
H/L L	Headlamp control unit LH	EXL	ALL models	—
H/L R	Headlamp control unit RH			
HVAC	A/C auto amp.	HAC	Automatic air conditioning models	—

CAN diagnosis display	Unit name	Section	Equipment	Note (How to identify)
ICC	ICC sensor	CCS	With Intelligent Cruise Control (ICC) system	Find distance control switch ① on the cruise control lever.  JSMIA2681ZZ
I-KEY	Intelligent Key unit	DLK	Intelligent Key models	—
M&A	Combination meter	MWI	ALL models	—
PARK	Sonar control unit	SN	With sonar system	Find sonar system switch on the upper control panel control unit.  JSNIA9590ZZ
PS CU	Passenger seat control unit	ADP	With automatic drive positioner system	Find seat memory switch ① on the front door finisher.  JSMIA2679ZZ
RDR-L	Side radar LH	DAS	With Blind Spot Warning (BSW) system	Find BSW indicator ①.on the front door corner cover.  JSOIA2239ZZ
RDR-R	Side radar RH			

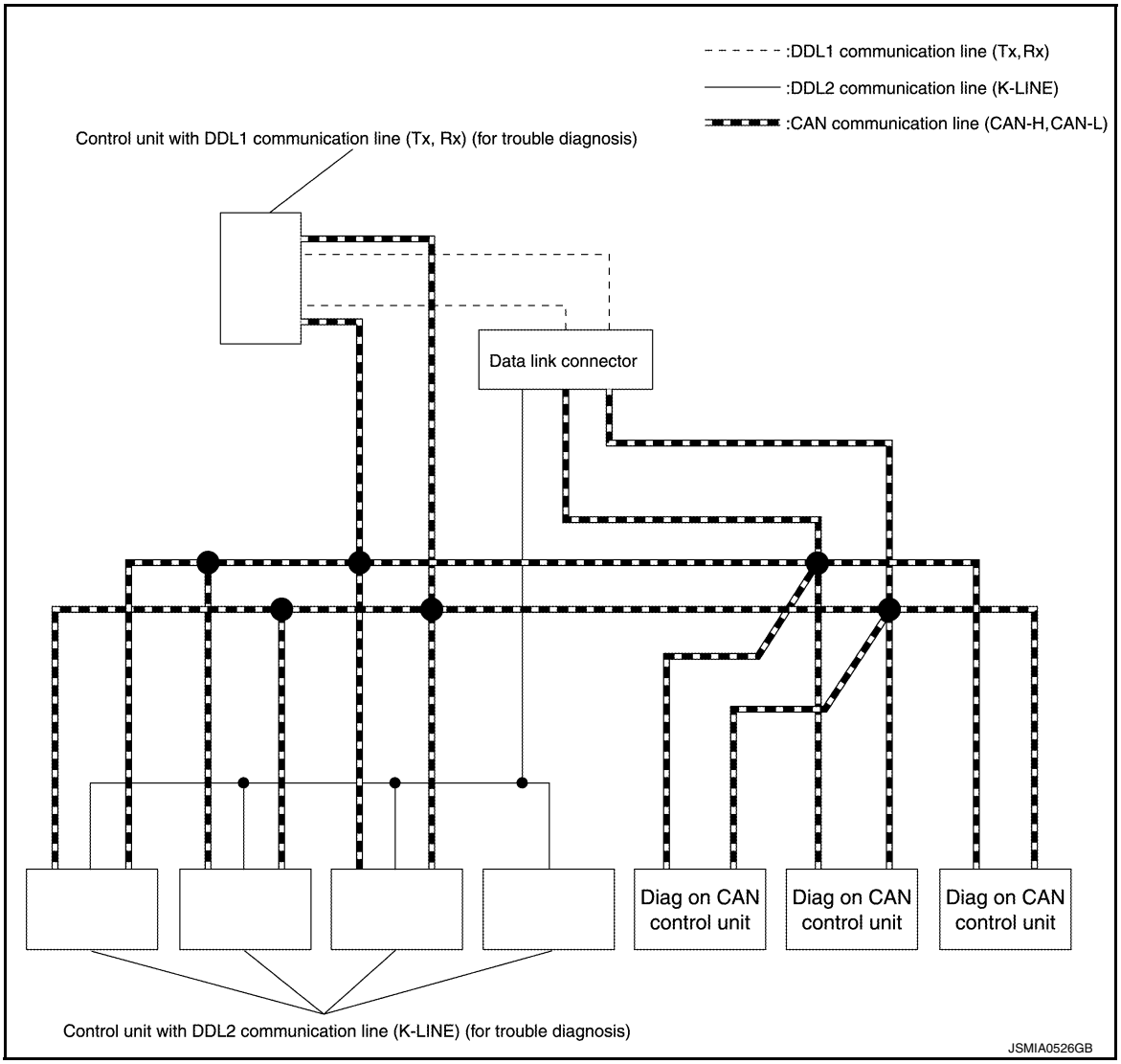
CAN diagnosis display	Unit name	Section	Equipment	Note (How to identify)
SCCM	Steering column control module	BCS	ALL models	—
TCM	TCM	TM	7DCT models	—
TCU	TCU (Telematics Communication Unit)	AV	With Telematics System	Find SOS switch ① on the headlining.  JSNIB0180ZZ
TPMS	Low tire pressure warning control unit	WT	ALL models	—

DIAG ON CAN

DIAG ON CAN : System Description

INFOID:0000000013768076

SYSTEM DIAGRAM



Name	Harness	Description
DDL1	Tx Rx	For communications with the diagnostic tool. (CAN-H and CAN-L are used for controlling)
DDL2	K-LINE	For communications with the diagnostic tool. (CAN-H and CAN-L are used for controlling)
Diag on CAN	CAN-H CAN-L	For communications with the diagnostic tool. (CAN-H and CAN-L are also used for control and diagnoses.)

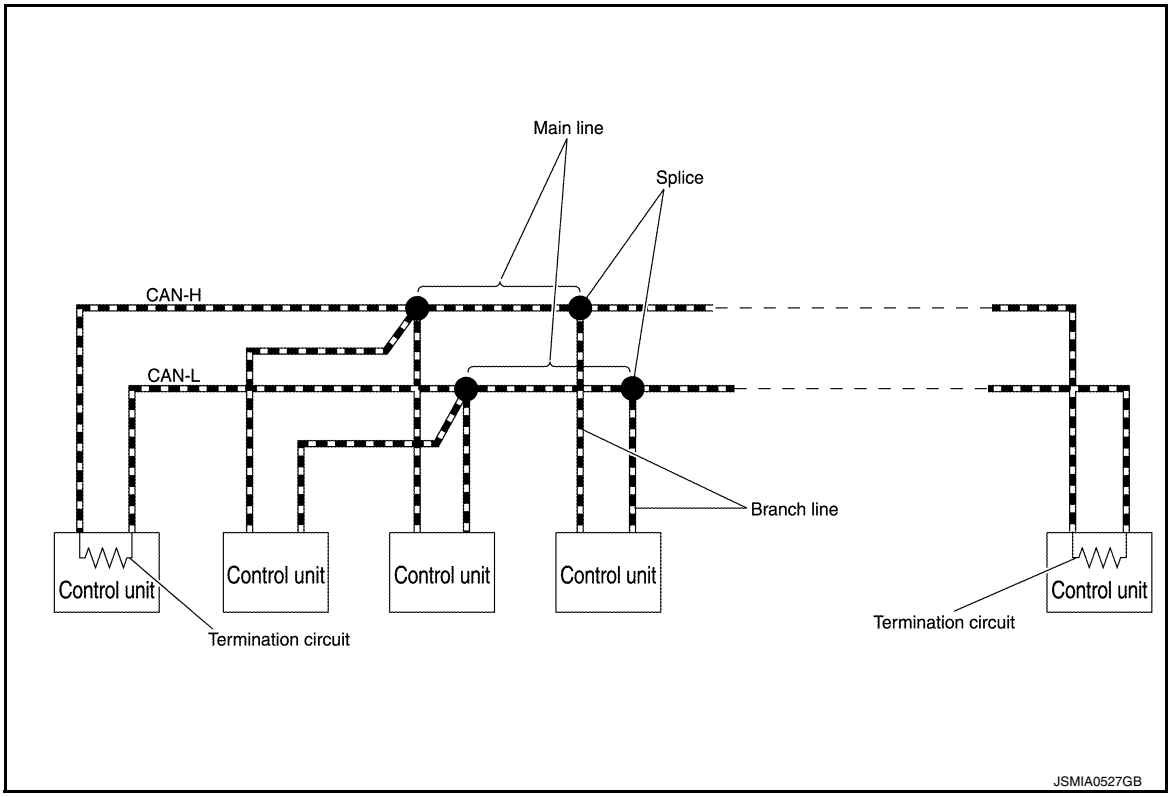
DESCRIPTION

“Diag on CAN” is a diagnosis method which uses the CAN communication line for the communication between the control unit and the diagnostic tool.

TROUBLE DIAGNOSIS

Component Description (For Multifunction Media CAN Communication)

INFOID:0000000013768077



Component	Description
Main line	CAN communication line between splices
Branch line	CAN communication line between splice and a control unit
Splice	A point connecting a branch line with a main line
Termination circuit	Circuit connected across the CAN communication system. (Resistor)

Condition of Error Detection

INFOID:0000000013768078

DTC of CAN communication is indicated on SELF-DIAG RESULTS on CONSULT if a CAN communication signal is not transmitted or received between units for 2 seconds or more.

CAN COMMUNICATION SYSTEM ERROR

- CAN communication line open (CAN-H, CAN-L, or both)
- CAN communication line short (ground, between CAN communication lines, other harnesses)
- Error of CAN communication control circuit of the unit connected to CAN communication line

WHEN DTC OF CAN COMMUNICATION IS INDICATED EVEN THOUGH CAN COMMUNICATION SYSTEM IS NORMAL

- Removal/installation of parts: Error may be detected when removing and installing CAN communication unit and related parts while turning the ignition switch ON. (A DTC except for CAN communication may be detected.)
- Fuse blown out (removed): CAN communication of the unit may cease.
- Voltage drop: Error may be detected if voltage drops due to discharged battery when turning the ignition switch ON (Depending on the control unit which carries out CAN communication).
- Error may be detected if the power supply circuit of the control unit, which carries out CAN communication, malfunctions (Depending on the control unit which carries out CAN communication).
- Error may be detected if reprogramming is not completed normally.

NOTE:

CAN communication system is normal if DTC of CAN communication is indicated on SELF-DIAG RESULTS of CONSULT under the above conditions. Erase the memory of the self-diagnosis of each control unit.

Symptom When Error Occurs in CAN Communication System

INFOID:0000000013768079

In CAN communication system, multiple control units mutually transmit and receive signals. Each control unit cannot transmit and receive signals if any error occurs on CAN communication line. Under this condition, multiple control units related to the root cause malfunction or go into fail-safe mode.

CAN Diagnosis with CONSULT

INFOID:0000000013768080

CAN diagnosis on CONSULT extracts the root cause by receiving the following information.

Multifunction Media CAN
- Response to the system call
- Control unit diagnosis information
- Self-diagnosis
- CAN diagnostic support monitor

Except Multifunction Media CAN
- Response to the system call

Self-Diagnosis

INFOID:0000000013768081

If communication signals cannot be transmitted or received among control units communicating via CAN communication line, CAN communication-related DTC is displayed on the CONSULT “Self Diagnostic Result” screen.

CAN Diagnostic Support Monitor

INFOID:0000000013768082

NOTE:
For the systems that display “CAN Diagnosis Support Monitor”, refer to GI-64, "CONSULT Function and System Application*1".

MONITOR ITEM (CONSULT)

Example: CAN DIAG SUPPORT MNTR indication

Without PAST

BCM		
MONITOR ITEM	PRESENT	PAST
INITIAL DIAG	OK	-
TRANSMIT DIAG	OK	-
ECM	OK	-
METER/M&A	OK	-
TCM	OK	-
IPDM E/R	OK	-
I-KEY	OK	-

With PAST

ENGINE		
MONITOR ITEM	PRESENT	PAST
TRANSMIT DIAG	OK	OK
VDC/TCS/ABS	OK	5
METER/M&A	Not diagnosed	-
BCM/SEC	OK	OK
ICC	Not diagnosed	-
HVAC	Not diagnosed	-
TCM	OK	OK
EPS	OK	OK
IPDM E/R	OK	5
e4WD	Not diagnosed	-
AWD/4WD	Not diagnosed	-

JSMIA0964GB

Without PAST

Item	PRESENT	Description
Initial diagnosis	OK	Normal at present
	NG	Control unit error (Except for some control units)
Transmission diagnosis	OK	Normal at present
	UNKWN	Unable to transmit signals for 2 seconds or more.
		Diagnosis not performed

Item	PRESENT	Description
Control unit name (Reception diagnosis)	OK	Normal at present
	UNKWN	Unable to receive signals for 2 seconds or more.
		Diagnosis not performed
		No control unit for receiving signals. (No applicable optional parts)

With PAST

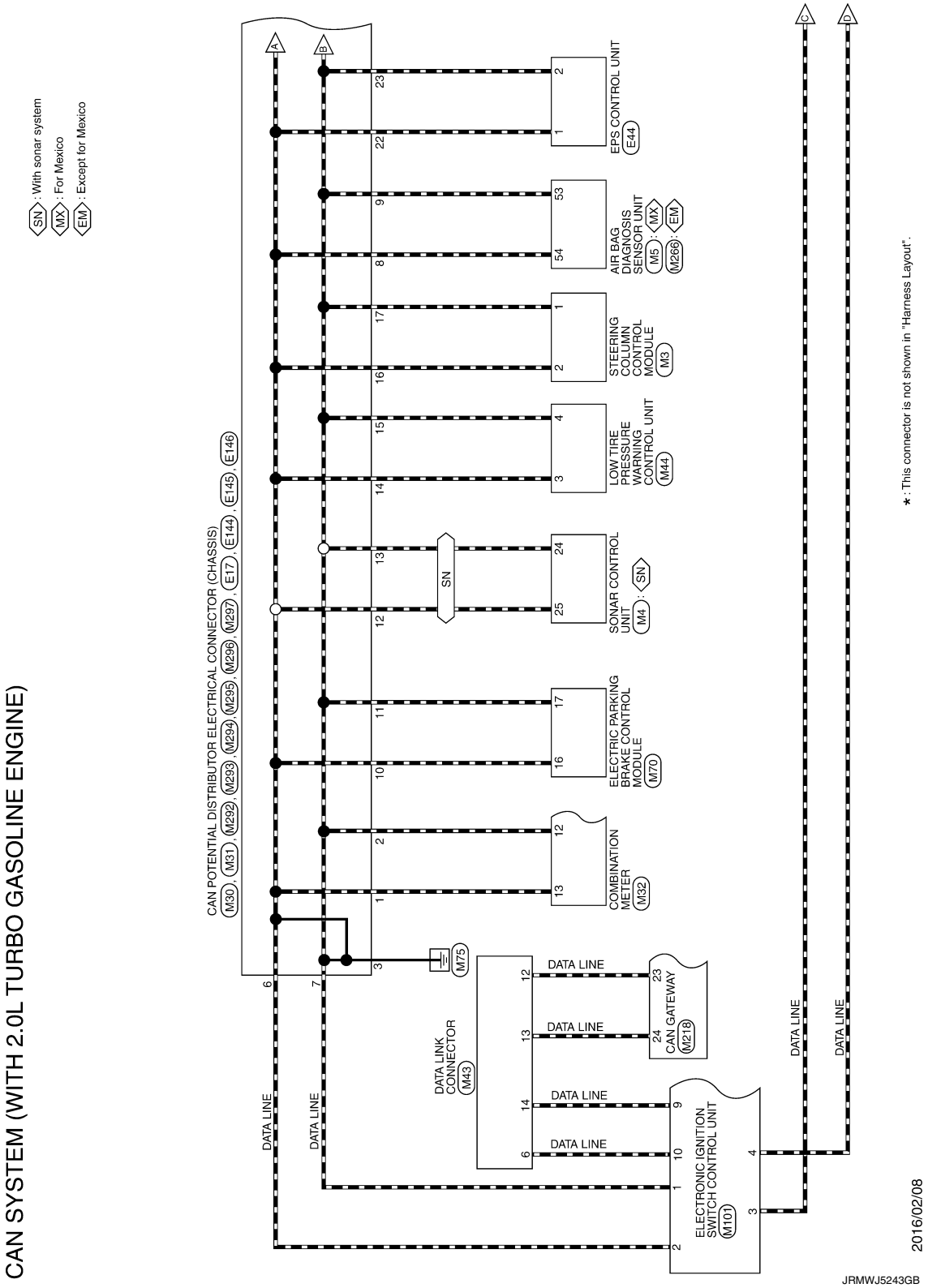
Item	PRESENT	PAST	Description
Transmission diagnosis	OK	OK	Normal at present and in the past
		1 – 39	Normal at present, but unable to transmit signals for 2 seconds or more in the past. (The number indicates the number of ignition switch cycles from OFF to ON.)
	UNKWN	0	Unable to transmit signals for 2 seconds or more at present.
Control unit name (Reception diagnosis)	OK	OK	Normal at present and in the past
		1 – 39	Normal at present, but unable to receive signals for 2 seconds or more in the past. (The number indicates the number of ignition switch cycles from OFF to ON.)
	UNKWN	0	Unable to receive signals for 2 seconds or more at present.
	Not diagnosed	–	Diagnosis not performed.
			No control unit for receiving signals. (No applicable optional parts)

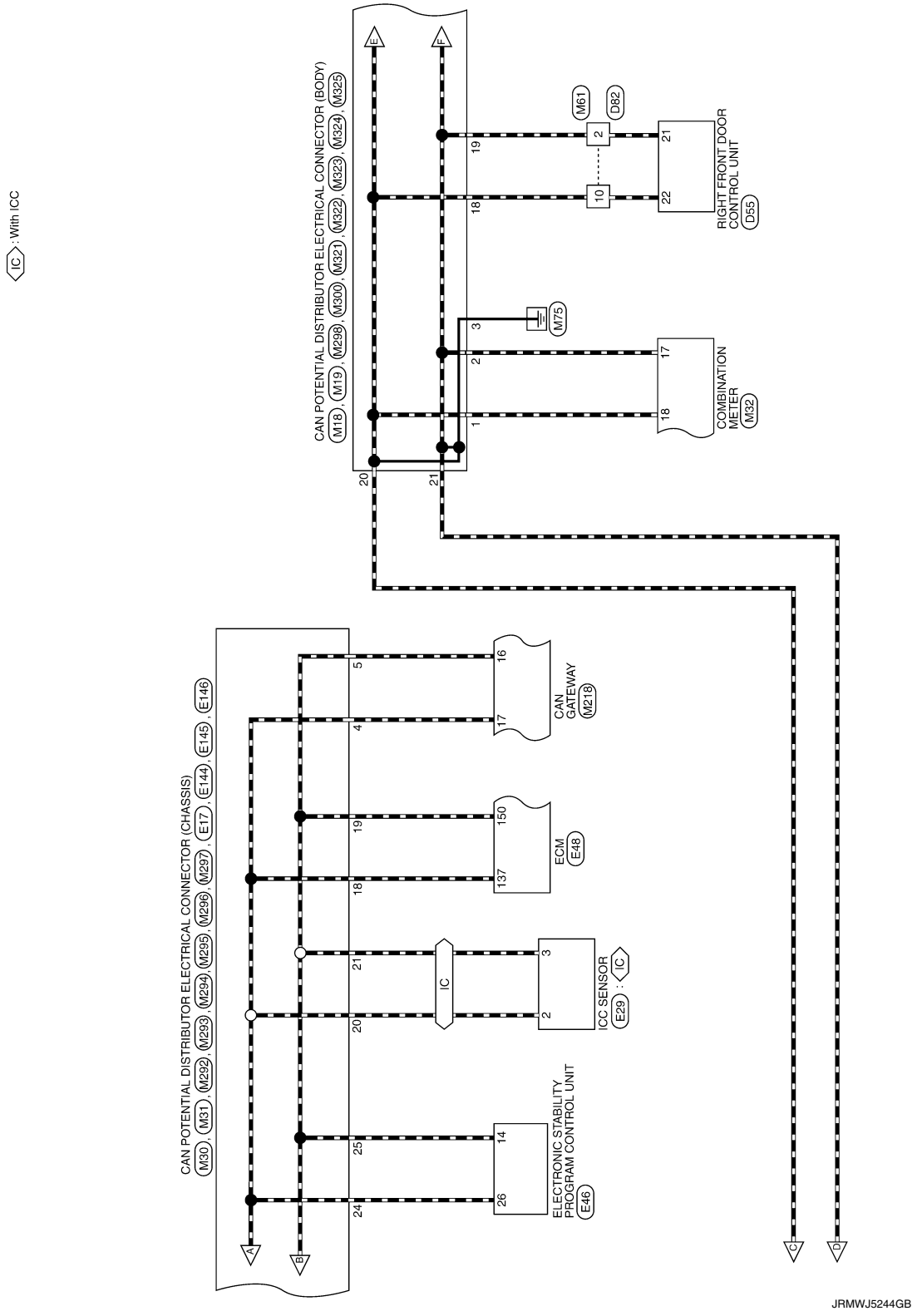
WIRING DIAGRAM

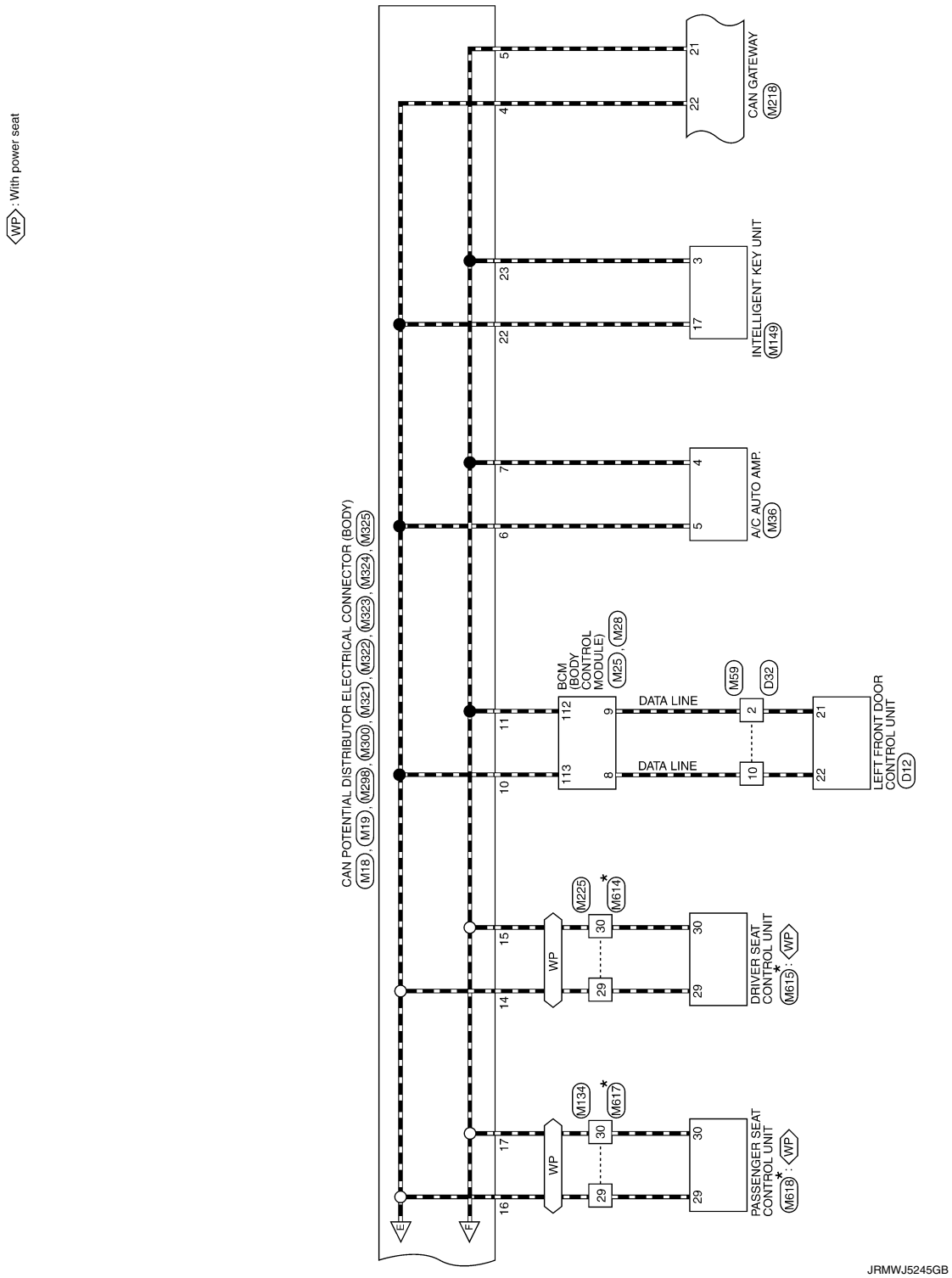
CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

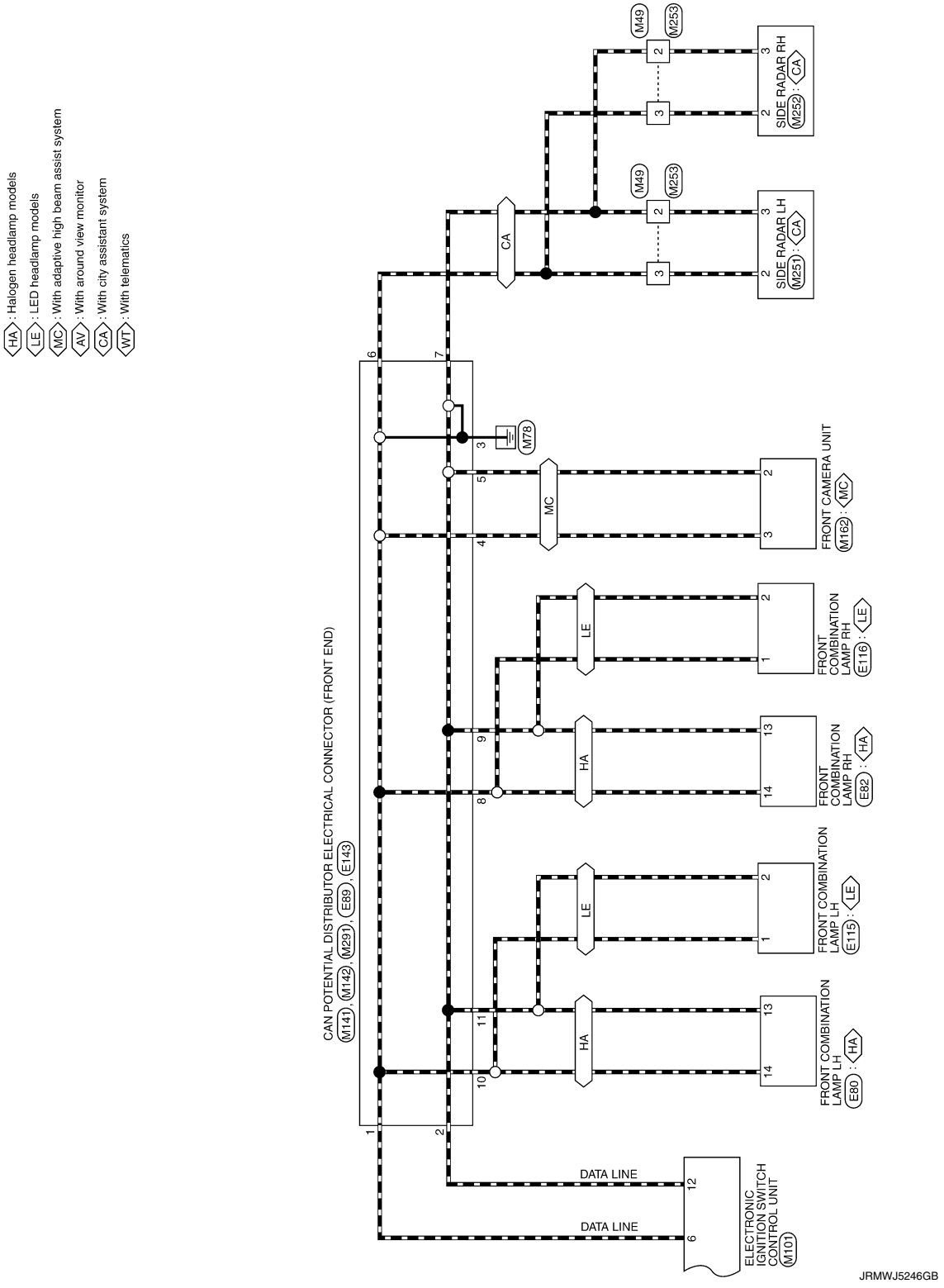
Wiring Diagram

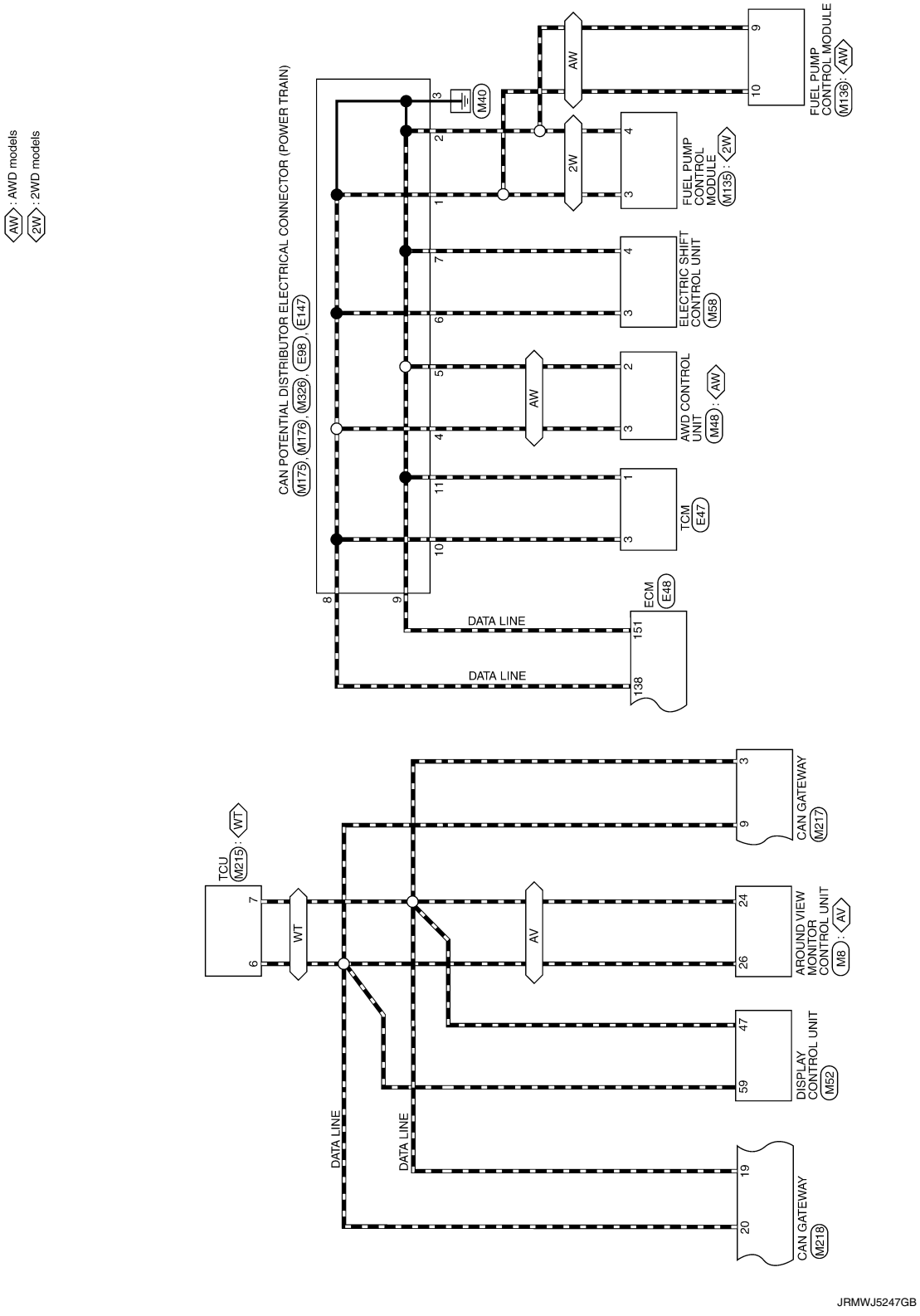
INFOID:0000000013768085




IC : With ICC
CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
M18, M19, M298, M300, M321, M322, M323, M324, M325
CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
M30, M31, M292, M293, M294, M295, M296, M297, E17, E144, E145, E146
M61
D82
RIGHT FRONT DOOR CONTROL UNIT
D55
M75
COMBINATION METER
M32
CAN GATEWAY
M218
ECM
E48
IC
ICC SENSOR
E29
ELECTRONIC STABILITY PROGRAM CONTROL UNIT
E46
JRMWJ5244GB


WP : With power seat
CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
(M18), (M19), (M298), (M300), (M321), (M322), (M323), (M324), (M325)
CAN GATEWAY
(M218)
INTELLIGENT KEY UNIT
(M149)
A/C AUTO AMP.
(M36)
BCM
(BODY
CONTROL
MODULE)
(M25), (M28)
DATA LINE
DATA LINE
(M59)
(D32)
LEFT FRONT DOOR
CONTROL UNIT
(D12)
(M225)
*(M614)
WP
DRIVER SEAT
CONTROL UNIT
*(M615) : WP
(M134)
*(M617)
WP
PASSENGER SEAT
CONTROL UNIT
*(M618) : WP
E
F
JRMWJ5245GB


HA : Halogen headlamp models
LE : LED headlamp models
MC : With adaptive high beam assist system
AV : With around view monitor
CA : With city assistant system
WT : With telematics
CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (FRONT END)
M141, M142, M291, E89, E143
M49
M253
SIDE RADAR RH
M252 : CA
SIDE RADAR LH
M251 : CA
CA
M78
MC
FRONT CAMERA UNIT
M162 : MC
LE
FRONT COMBINATION LAMP RH
E116 : LE
HA
FRONT COMBINATION LAMP RH
E82 : HA
FRONT COMBINATION LAMP LH
E115 : LE
FRONT COMBINATION LAMP LH
E80 : HA
DATA LINE
DATA LINE
ELECTRONIC IGNITION SWITCH CONTROL UNIT
M101
JRMWJ5246GB


AW : AWD models
2W : 2WD models
CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (POWER TRAIN)
M175, M176, M326, E98, E147
M40
FUEL PUMP CONTROL MODULE M136 : AW
FUEL PUMP CONTROL MODULE M135 : 2W
ELECTRIC SHIFT CONTROL UNIT M58
AWD CONTROL UNIT M48 : AW
TCM E47
ECM E48
DATA LINE
DATA LINE
TCU M215 : WT
CAN GATEWAY M217
AROUND VIEW MONITOR CONTROL UNIT M8 : AV
DISPLAY CONTROL UNIT M52
CAN GATEWAY M218
DATA LINE
DATA LINE
JRMWJ5247GB

CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

Connector No.	D12
Connector Name	LEFT FRONT DOOR CONTROL UNIT
Connector Type	MB_A0025406281



Terminal No.	Color Of Wire	Signal Name [Specification]
21	BR	BODY CAN 2-L
22	R	BODY CAN 2-H
23	L	ROTARY CATCH SIGNAL
24	BR	GROUND
25	R	BATTERY POWER SUPPLY

Connector No.	D32
Connector Name	WIRE TO WIRE
Connector Type	AMP_953892-1

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	BR	-
3	P	-
4	GR	- [Without BOSE audio]
4	V	- [With BOSE audio]
5	P	-
6	L	-
7	R	-
8	W	-
9	B	-
10	R	-
11	G	-
12	BR	- [Without BOSE audio]
12	P	- [With BOSE audio]
13	B	-
15	B	-
16	SHIELD	-

Connector No.	D55
Connector Name	RIGHT FRONT DOOR CONTROL UNIT
Connector Type	MB_A0025406281



Terminal No.	Color Of Wire	Signal Name [Specification]
21	BR	BODY CAN 1-L
22	R	BODY CAN 1-H
24	BR	GROUND
25	R	BATTERY POWER SUPPLY

Connector No.	D82
Connector Name	WIRE TO WIRE
Connector Type	AMP_953892-1

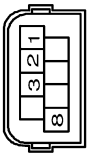


Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	BR	-
3	G	-
4	GR	- [Without BOSE audio]
4	L	- [With BOSE audio]
5	Y	-
7	R	-
8	W	-
9	BR	-
10	R	-
11	G	-
12	BR	- [Without BOSE audio]
12	G	- [With BOSE audio]
13	GR	-
15	B	-
16	SHIELD	-

Connector No.	E17
Connector Name	CAN POTENTIAL DISTRIBUTION ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

Terminal No.	Color Of Wire	Signal Name [Specification]
18	W	CAN-H
19	G	CAN-L

Connector No.	E29
Connector Name	ICC SENSOR
Connector Type	MB_A2105404581



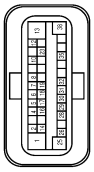
Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	GROUND
2	W	CAN-H
3	G	CAN-L
8	B	BATTERY POWER SUPPLY

Connector No.	E44
Connector Name	EPS CONTROL UNIT
Connector Type	MB_A0065401981



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	CAN-H
2	G	CAN-L

Connector No.	E46
Connector Name	ELECTRONIC STABILITY PROGRAM CONTROL UNIT
Connector Type	MB_A2465400581



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	MOTOR POWER SUPPLY
2	W	BRAKE PEDAL
4	P	RIGHT FRONT AXLE RPM SENSOR SIGNAL
5	GR	BRAKE VACUUM SENSOR POWER SUPPLY
6	B	BRAKE LIGHT SWITCH-L
7	R	BATTERY POWER SUPPLY
8	Y	LEFT FRONT AXLE RPM SENSOR SIGNAL
10	O	STANDSTILL CONTROL (SSC) STATUS
12	P	BRAKE VACUUM SENSOR SIGNAL
13	BR	GROUND (MOTOR)
14	G	CAN-L
16	B	RIGHT FRONT AXLE RPM SENSOR POWER SUPPLY
17	Y	RIGHT REAR AXLE RPM SENSOR POWER SUPPLY
18	BR	LEFT REAR AXLE RPM SENSOR SIGNAL
19	W	LEFT FRONT AXLE RPM SENSOR POWER SUPPLY
23	B	BRAKE VACUUM SENSOR GROUND
25	P	VALVE RELAY POWER SUPPLY

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CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

26	W	CAN-H
28	R	BATTERY POWER SUPPLY
29	P	RIGHT REAR AXLE RPM SENSOR SIGNAL
30	V	BRAKE LIGHT SWITCH-H
31	GR	LFET REAR AXLE RPM SENSOR POWER SUPPLY
32	L	BRAKE LIGHT SWITCH GROUND
35	R	BRAKE LIGHT SWITCH POWER SUPPLY
38	B	GROUND (VALVE)

103	L	COOLING FAN CONTROL SIGNAL
104	R	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
105	G	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
106	BR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR1)
111	B	IGNITION SIGNAL
112	Y	POWER SUPPLY (BATTERY)
116	W	STARTER RELAY-L
119	GR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
120	O	SENSOR GROUND
122	R	HOT START SIGNAL
123	GR	MOTOR RELAY CONTROL SIGNAL
127	O	FUEL PUMP ON SIGNAL
132	G	ACCELERATOR PEDAL POSITION SENSOR 1
136	Y	POWERTRAIN SENSOR CAN-H
137	W	CAN-H
138	GR	POWERTRAIN CAN-H
141	B	WATER PUMP RELAY CONTROL SIGNAL
145	W	ACCELERATOR PEDAL POSITION SENSOR 2
146	G	FUEL TANK PRESSURE SENSOR
147	L	CRASH SIGNAL
148	W	STARTER RELAY-H
149	B	POWERTRAIN SENSOR CAN-L
150	G	CAN-L
151	L	POWERTRAIN CAN-L
152	V	EVAP CANISTER VENT CONTROL VALVE
153	BR	EVAP PURGE CONTROL VALVE

Connector No.	E82
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS06FGY-PR

Terminal No.	Color Of Wire	Signal Name [Specification]
10	BR	GROUND
11	R	BATTERY POWER SUPPLY
12	GR	PARKING LAMP SIGNAL
13	L	CAN-H
14	W	CAN-L

Connector No.	E89
Connector Name	GAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (FRONT END)
Connector Type	MB_A0285450226

Terminal No.	Color Of Wire	Signal Name [Specification]
8	W	CAN-H
9	L	CAN-L

Connector No.	E98
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (POWERTRAIN)
Connector Type	MB_A0285450526

Terminal No.	Color Of Wire	Signal Name [Specification]
8	GR	CAN-H
9	L	CAN-L

Connector No.	E115
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FGY-PR

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	CAN-H
2	L	CAN-L
3	Y	HEADLAMP POWER SUPPLY
4	V	BATTERY POWER SUPPLY
5	B	GROUND
11	GR	HEADLAMP POWER SUPPLY
12	BR	BATTERY POWER SUPPLY
13	B	GROUND

Connector No.	E47
Connector Name	TCM
Connector Type	MB_A2465450026

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-L
2	V	NOT P
3	GR	CAN-H
5	W	BATTERY POWER SUPPLY

Connector No.	E48
Connector Name	ECM
Connector Type	MB_A0075406981

Terminal No.	Color Of Wire	Signal Name [Specification]
97	R	POWER SUPPLY (ECM)
98	BR	ECM GROUND
99	V	POWER SUPPLY (ECM)
100	BR	ECM GROUND
101	R	POWER SUPPLY (ECM)
102	B	ECM GROUND

Connector No.	E80
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS06FGY-PR

Terminal No.	Color Of Wire	Signal Name [Specification]
10	BR	GROUND
11	R	BATTERY POWER SUPPLY
12	GR	PARKING LAMP SIGNAL
13	L	CAN-H
14	W	CAN-L

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CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

Connector No.	E116
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FGY-PR

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	CAN-H
2	L	CAN-L
3	GR	HEADLAMP POWER SUPPLY
4	BR	BATTERY POWER SUPPLY
5	B	GROUND
11	Y	HEADLAMP POWER SUPPLY
12	BR	BATTERY POWER SUPPLY
13	B	GROUND

Connector No.	E143
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (FRONT END)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
10	W	CAN-H
11	L	CAN-L

Connector No.	E144
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
20	W	CAN-H
21	G	CAN-L

Connector No.	E145
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
22	W	CAN-H
23	G	CAN-L

Connector No.	E146
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
24	W	CAN-H
25	G	CAN-L

Connector No.	E147
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (POWERTRAIN)
Connector Type	MB_A0285450526

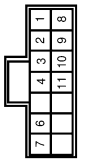
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
10	GR	CAN-H
11	L	CAN-L

Connector No.	M3
Connector Name	STEERING COLUMN CONTROL MODULE
Connector Type	MB_A2045401281

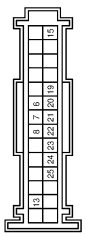
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	CAN-L (CHASSIS)
2	W	CAN-H (CHASSIS)
3	BR	GND
4	R	KL30G
6	R	KL30
7	BR	GND
8	L	AB1+
9	Y	AB1-
10	V	AB2+
11	G	AB2-

Connector No.	M4
Connector Name	SONAR CONTROL UNIT
Connector Type	MB_A0015403081

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
6	L	CORNER SENSAR SIGNAL REAR LH
7	R	CENTER SENSAR SIGNAL REAR RH
8	Y	SIDE SENSAR SIGNAL REAR RH
13	BR	GROUND
15	R	BATTERY POWER SUPPLY
19	BR	REAR SENSOR POWER SUPPLY
20	V	SIDE SENSAR SIGNAL REAR LH
21	W	CENTER SENSAR SIGNAL REAR LH
22	Y	CORNER SENSAR SIGNAL REAR RH
23	B	REAR SENSOR GROUND

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CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

24	G	CAN-L
25	W	CAN-H

Connector No.	M5
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	MB_A0095405681

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BUMPER SENSOR RH GROUND
2	W	BUMPER SENSOR RH SIGNAL
3	B	BUMPER SENSOR LH SIGNAL
4	W	BUMPER SENSOR LH GROUND
9	L/G	POP-UP ENGINE HOOD ACTUATOR RH (-)
10	BR/B	POP-UP ENGINE HOOD ACTUATOR RH (+)
11	O	POP-UP ENGINE HOOD ACTUATOR LH (+)
12	BR/W	POP-UP ENGINE HOOD ACTUATOR LH (-)
37	V	FUSE(-)
38	W	FUSE(+)
40	Y	OCCUPANT I/N SIGNAL
41	V/G	RPRH(+)
42	BR/Y	RPRH(-)
43	BR/Y	RPLH(-)
44	V/G	RPLH(+)
45	B	REAR BUCKLE SWITCH RH(-)
46	G	REAR BUCKLE SWITCH RH(+)
47	B	REAR BUCKLE SWITCH CENTER(-)
48	G	REAR BUCKLE SWITCH CENTER(+)
49	B	REAR BUCKLE SWITCH RH(-)
50	G	REAR BUCKLE SWITCH RH(+)
51	Y	AIR BAG SIGNAL
52	P	AIR BAG SIGNAL
53	G	CAN-L
54	W	CAN-H
57	R	B-SATELITE LH(+)
58	B	B-SATELITE LH(-)
59	BR	B-SATELITE RH(-)
60	L	B-SATELITE RH(+)
61	BR	FRONT DOOR SATELLITE RH(-)
62	G	FRONT DOOR SATELLITE RH(+)
63	B	FRONT DOOR SATELLITE LH(+)
64	BR	FRONT DOOR SATELLITE LH(-)
67	W	REAR DOOR SATELLITE RH(-)
68	B	REAR DOOR SATELLITE RH(+)
69	R	REAR DOOR SATELLITE LH(+)
70	W	REAR DOOR SATELLITE LH(-)
71	Y	BUCKLE SWITCH AS(+)
72	O	BUCKLE SWITCH AS(-)
73	Y	BUCKLE SWITCH DR(+)
74	O	BUCKLE SWITCH DR(-)
75	V/G	CLH(+)
76	BR/Y	CLH(-)
77	W/BR	CRH(+)
78	R/V	CRH(-)
85	P	CZS RH(-)
86	W	CZS RH(+)
87	BR	CZS LH(-)
88	L	CZS LH(+)
89	O	SAB AS(-)
90	Y	SAB AS(+)
93	Y	SAB DR(+)
94	O	SAB DR(-)
95	BR	FPRH(-)
96	L/W	FPRH(+)
97	G	FPLH(+)
98	V	FPLH(-)
100	BR	GND
101	BR	GND
103	Y	KI.15R
104	G	KI.30

Connector No.	M8
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH40FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
3	SHIELD	SHIELD
4	O	CAMERA IMAGE SIGNAL
5	B	FRONT CAMERA GROUND
6	R	FRONT CAMERA POWER SUPPLY
7	SHIELD	SHIELD
8	W	FRONT CAMERA IMAGE SIGNAL
9	W	SIDE CAMERA LH GROUND
10	R	SIDE CAMERA LH POWER SUPPLY
11	SHIELD	SHIELD
12	B	SIDE CAMERA LH IMAGE SIGNAL
13	W	SIDE CAMERA RH GROUND
14	R	SIDE CAMERA RH POWER SUPPLY
15	SHIELD	SHIELD
16	B	SIDE CAMERA RH IMAGE SIGNAL
17	R	REAR CAMERA GROUND
18	W	REAR CAMERA POWER SUPPLY
19	SHIELD	SHIELD
20	B	REAR CAMERA IMAGE SIGNAL
24	P	CAN-L
26	L	CAN-H
32	G	REVERSE SIGNAL
39	B	GROUND
40	G	IGNITION SIGNAL

Connector No.	M18
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
4	R	CAN-H
5	BR	CAN-L

Connector No.	M19
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450826

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	CAN-H
2	BR	CAN-L
3	B	GROUND

Connector No.	M25
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A0075405081

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	ROTARY LIGHT SW GND
2	O	ROTARY LIGHT SW (PL/PR/TAIL)
3	R	ROTARY LIGHT SW (AUTO/LOW)
4	G	ROTARY LIGHT SW (FR FOG)
5	Y	-
7	GR	SWITCH INDICATOR
8	R	CAN-H (BODY 2)
9	BR	CAN-L (BODY 2)
12	O	LIN (IBS)
14	G	FOOT LAMP

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CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

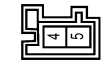
Connector No.	M28
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB A166540048 1



Terminal No.	Color Of Wire	Signal Name [Specification]
67	V	BACK DOOR UNLOCK
69	GR	STOP LAMP (BODY RH)
70	B	REAR TURN SIGNAL LH
71	GR	BACK-UP LAMP RH
72	Y	LICENSE PLATE LAMP RH
73	L	RR POWER WINDOW SW RH UP
74	B	RR POWER WINDOW SW RH DOWN
75	L	RR POWER WINDOW SW RH GND
76	GR	HALL SENSOR RH POWER SUPPLY
77	R	SUB BAT-
78	B	TERMINAL RELAY 15R1 CONT
80	B	REAR WIPER RELAY CONT
82	GR	TAIL LAMP (BODY LH)
83	P	TERMINAL RELAY 15R2 CONT
85	B	TAIL LAMP (BK LH)
87	R	BAT (VIA LATCHING TERMINAL RELAY 30G)
89	O	HALL SENSOR RH GND
90	V	HALL SENSOR RH SIGNAL
91	P	FUEL LEVEL SENSOR GND
92	L	FUEL LEVEL SENSOR
93	GR	FUEL LEVEL SENSOR
94	Y	FUEL FILLER LID STATUS
97	G	LATCHING TERMINAL RELAY 30G CONT 1
98	B	LATCHING TERMINAL RELAY 30G GND 1
99	W	LATCHING TERMINAL RELAY 30G GND 2
100	V	LATCHING TERMINAL RELAY 30G CONT 2
101	Y	REAR DOOR INSIDE HANDLE LAMP CONT
102	GR	AMBIENT LAMP CONT
103	V	SUB BAT RELAY CONT
105	G	RR DOOR LH UNLOCK
106	W	FUEL FILLER LID UNLOCK
107	L	RR DOOR LH LOCK
108	R	SUB BAT+
109	O	LIN (ROOF)
112	BR	CAN-L (BODY 1)
113	R	CAN-H (BODY 1)

114	B	INJECTION RELAY CONT

Connector No.	M30
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

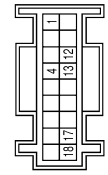


Terminal No.	Color Of Wire	Signal Name [Specification]
4	W	CAN-H
5	G	CAN-L

Connector No.	M31
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450926

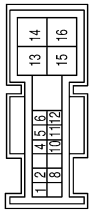
Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	CAN-H
2	G	CAN-L
3	BR	GROUND

Connector No.	M32
Connector Name	COMBINATION METER
Connector Type	MB_A0325452726



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	GROUND
4	R	BATTERY POWER SUPPLY
12	GR	CAN-L
13	W	CAN-H
17	BR	CAN-L
18	R	CAN-H

Connector No.	M36
Connector Name	A/C AUTO AMP.
Connector Type	MB_A0025405581



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	REFRIGERANT PRESSURE SENSOR GROUND
2	B	REFRIGERANT PRESSURE SENSOR SIGNAL
4	BR	CAN-L
5	R	CAN-H
6	V	COMPRESSOR (ECV) CONTROL SIGNAL
8	L	REFRIGERANT PRESSURE SENSOR POWER SUPPLY
10	Y	REAR WINDOW DEFOGGER RELAY CONTROL SIGNAL
11	V	LIN (BLOWER MOTOR)
12	G	COMPRESSOR (ECV) GROUND
13	P	COMPRESSOR (MAGNET CLUTCH) CONTROL SIGNAL
14	R	COOLANT CIRCULATION PUMP CONTROL SIGNAL
15	BR	GROUND
16	O	BATTERY POWER SUPPLY

Connector No.	M43
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

Terminal No.	Color Of Wire	Signal Name [Specification]
4	B	CHASSIS_GND
5	B	ELECTRONICS_GND
6	GR	DIAGNOSTICS-CAN_H_DAI
8	W	IGN_SW
12	L	DIAGNOSTIC-CAN-L_NIS
13	V	DIAGNOSTIC-CAN_H_NIS
14	GR	DIAGNOSTICS-CAN_L_DAI
16	R	BATTERY

Connector No.	M44
Connector Name	LOW-TIRE PRESSURE WARNING CONTROL UNIT
Connector Type	MB_A2105404381

Terminal No.	Color Of Wire	Signal Name [Specification]
1	O	BATTERY POWER SUPPLY
2	BR	GROUND
3	W	CAN-H
4	G	CAN-L

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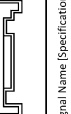
CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

Connector No.	M48
Connector Name	AWD CONTROL UNIT
Connector Type	MB_A0525451826



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	CAN-L
3	W	CAN-H
6	L	BATTERY POWER SUPPLY
7	BR	GROUND
10	BR	AWD SOL (-)
11	O	AWD SOL (+)
12	R	BATTERY POWER SUPPLY

Connector No.	M49
Connector Name	WIRE TO WIRE
Connector Type	MB_A0535451528



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	L	-
3	W	-
4	O	-

Connector No.	M52
Connector Name	DISPLAY CONTROL UNIT
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
46	G	AV COMMUNICATION SIGNAL (L)
47	P	CAN-L
49	R	DIMMER SIGNAL
50	BR	REVERSE SIGNAL
52	B	GROUND
56	BR	CAMERA SWITCH SIGNAL
58	Y	AV COMMUNICATION SIGNAL (H)
59	L	CAN-H
60	W	IGNITION SIGNAL
61	R	VEHICLE SPEED SIGNAL (8-PLUSE)
63	L	ACC POWER SUPPLY
64	Y	BATTERY POWER SUPPLY

Connector No.	M58
Connector Name	ELECTRIC SHIFT CONTROL UNIT
Connector Type	MB_A0385457228



Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	BATTERY POWER SUPPLY
2	BR	GROUND
3	W	CAN-H
4	L	CAN-L

Connector No.	M59
Connector Name	WIRE TO WIRE
Connector Type	AMP_953893-1

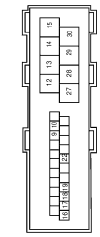


Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	BR	-
3	O	-
4	V	- [With BOSE audio]
4	W	- [Without BOSE audio]
5	P	-
6	L	-
7	R	-
8	W	-
9	B	-
10	R	-
11	G	-
12	L	- [Without BOSE audio]
12	P	- [With BOSE audio]
13	B	-
15	B	-
16	SHIELD	-

Connector No.	M61
Connector Name	WIRE TO WIRE
Connector Type	AMP_953893-1

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	BR	-
3	G	-
4	L	-
4	Y	- [With BOSE audio]
5	V	- [Without BOSE audio]
7	R	-
8	W	-
9	BR	-
10	R	-
11	O	-
12	BR	- [Without BOSE audio]
12	G	- [With BOSE audio]
13	GR	-
15	B	-
16	SHIELD	-

Connector No.	M70
Connector Name	ELECTRIC PARKING BRAKE CONTROL MODULE
Connector Type	MB_A0085409281



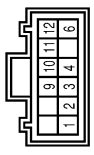
Terminal No.	Color Of Wire	Signal Name [Specification]
9	G	ELECTRIC PARKING BRAKE SWITCH 1
10	P	ELECTRIC PARKING BRAKE SWITCH 2
12	R	MOTOR RH (+)
13	W	MOTOR POWER SUPPLY (RH)
14	R	MOTOR LH (+)
15	R	MOTOR POWER SUPPLY (LH)
16	W	CAN-H
17	G	CAN-L
18	O	ELECTRIC PARKING BRAKE SWITCH 3
19	G	ELECTRIC PARKING BRAKE SWITCH 4
22	B	POWER SUPPLY
27	Y	MOTOR RH (-)
28	BR	GROUND (MOTOR RH)
29	V	MOTOR LH (-)
30	BR	GROUND (MOTOR LH)

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CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

Connector No.	M101
Connector Name	ELECTRONIC IGNITION SWITCH CONTROL UNIT
Connector Type	MB_A0265458426

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	CHASSIS CAN-L
2	W	CHASSIS CAN-H
3	R	BODY CAN 1-H
4	BR	BODY CAN 1-L
6	W	STEERING LOCK OPERATION
9	GR	REMOTE KEYLESS
10	W	POWER SUPPLY
11	BR	DIAGNOSTIC CAN-L
12	L	DIAGNOSTIC CAN-H

Connector No.	M134
Connector Name	WIRE TO WIRE
Connector Type	MB_A0085402081

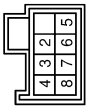
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	-
4	BR	-
13	BR	-
18	R	-
29	R	-
30	BR	-
31	O	-

Connector No.	M135
Connector Name	FUEL PUMP CONTROL MODULE
Connector Type	MB_A0255458826

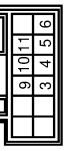
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	FUEL PUMP ACTIVATION REQUEST
3	W	POWERTRAIN CAN-H
4	L	POWERTRAIN CAN-L
5	GR	BATTERY POWER SUPPLY
6	O	SENSOR GROUND
7	V	FUEL PRESSURE SENSOR
8	G	SENSOR POWER SUPPLY

Connector No.	M136
Connector Name	FUEL PUMP CONTROL MODULE
Connector Type	MB_A0265456226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	G	SENSOR POWER SUPPLY
4	V	FUEL PRESSURE SENSOR
5	O	SENSOR GROUND
6	GR	IGNITION SIGNAL
9	L	POWERTRAIN CAN-L
10	W	POWERTRAIN CAN-H
11	L	FUEL PUMP ACTIVATION REQUEST

Connector No.	M141
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (FRONT END)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
4	W	CAN-H
5	L	CAN-L

Connector No.	M142
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (FRONT END)
Connector Type	MB_A0285450926

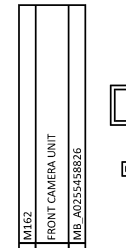
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	CAN-H
2	L	CAN-L
3	BR	GROUND

Connector No.	M149
Connector Name	INTELLIGENT KEY UNIT
Connector Type	MB_A0045407281

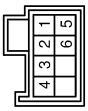
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
3	BR	BODY CAN 1-L
5	L	REAR INSIDE KEY ANTENNA SIG 1
6	Y	OUTSIDE KEY ANTENNA RH SIG 1
7	G	OUTSIDE KEY ANTENNA LH SIG 1
8	W	FRONT INSIDE KEY ANTENNA SIG 1
11	GR	FR I-KEY DOOR HANDLE RH GND
12	B	FR I-KEY DOOR HANDLE LH GND
15	R	BATTERY POWER SUPPLY
17	R	BODY CAN 1-H
18	B	KEYLESS COMMUNICATION SIG
19	R	REAR INSIDE KEY ANTENNA SIG 2
20	O	OUTSIDE KEY ANTENNA RH SIG 2
21	V	OUTSIDE KEY ANTENNA LH SIG 2
22	B	FRONT INSIDE KEY ANTENNA SIG 2
25	V	FR I-KEY DOOR HANDLE RH SIG
26	P	FR I-KEY DOOR HANDLE LH SIG

Connector No.	M162
Connector Name	FRONT CAMERA UNIT
Connector Type	MB_A0255458826

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	GROUND
2	L	CAN-L
3	W	CAN-H

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CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

4	R	BATTERY POWER SUPPLY
5	O	HEATER GROUND
6	Y	HEATER POWER SUPPLY

Connector No.	M175
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (POWERTRAIN)
Connector Type	MB_A0285450526

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
4	W	CAN-H
5	L	CAN-L

Connector No.	M176
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (POWERTRAIN)
Connector Type	MB_A0285451226

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	CAN-H
2	L	CAN-L
3	BR	GROUND

Connector No.	M215
Connector Name	TCU
Connector Type	TH40FB-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BATTERY POWER SUPPLY
2	L	ACC POWER SUPPLY
3	V	ACC OUT PUT
5	GR	SOS SWITCH LED SIGNAL
6	L	CAN-H
7	P	CAN-L
10	W	IGNITION SIGNAL
11	SHIELD	MICROPHONE SIGNAL GROUND
12	O	MICROPHONE SIGNAL
16	SHIELD	SHIELD
17	R	MICROPHONE SIGNAL
18	L	MICROPHONE VCC
26	Y	AV COMMUNICATION (H)
27	G	AV COMMUNICATION (L)
28	B	GROUND
29	B	GROUND
30	SHIELD	SHIELD
31	B	SOUND SIGNAL (+)
32	W	SOUND SIGNAL (-)
37	G	SOS CALL SWITCH SIGNAL

Connector No.	M217
Connector Name	CAN GATEWAY
Connector Type	MB_A0225400481

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	SOS SWITCH LED SIGNAL
2	R	DIMMER SIGNAL
3	P	MULTIFUNCTION MEDIA CAN-L
4	O	ENGINE SPEED SIGNAL
7	BR	REVERSE SIGNAL
8	V	ACC POWER SUPPLY
9	L	MULTIFUNCTION MEDIA CAN-H
10	W	SOS CALL SWITCH SIGNAL
11	Y	VEHICLE SPEED SIGNAL
12	W	ILLUMINATION CONTROL SIGNAL

Connector No.	M218
Connector Name	CAN GATEWAY
Connector Type	MB_A0225400581

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
13	B	GROUND
14	G	AV COMMUNICATION-L
15	L	AV COMMUNICATION-H
16	G	CHASSIS CAN-L
17	W	CHASSIS CAN-H
18	O	BATTERY POWER SUPPLY
19	P	MULTIFUNCTION MEDIA CAN-L
20	L	MULTIFUNCTION MEDIA CAN-H
21	BR	BODY CAN 1-L
22	R	BODY CAN 1-H

23	L
24	V

DIAGNOSTIC CAN-L	
DIAGNOSTIC CAN-H	

Connector No.	M225
Connector Name	WIRE TO WIRE
Connector Type	MB_A0085402081

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	-
4	BR	-
18	R	-

Connector No.	M251
Connector Name	SIDE RADAR LH
Connector Type	MB_A2215400981

H.S.

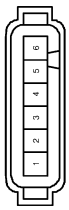
Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	GROUND
2	P	CAN-H
3	P/W	CAN-L
4	B	BATTERY POWER SUPPLY

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CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

Connector No.	M252
Connector Name	SIDE RADAR RH
Connector Type	MB_A2215400981

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	GROUND
2	G/W	CAN-H
3	G	CAN-L
4	B	BATTERY POWER SUPPLY
5	BR	GROUND
6	Y	GROUND

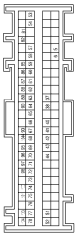
Connector No.	M253
Connector Name	WIRE TO WIRE
Connector Type	MB_A0225452726

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	L	-
3	W	-
4	B	-

Connector No.	M266
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	MB_A0105404681

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
5	B	ACTIVE VENT PS(-)
6	Y	ACTIVE VENT PS(+)
37	V	FUSE-
38	W	FUSE+
40	Y	OCCUPANT LIN SIGNAL
41	V/G	RPRH(+)
42	BR/Y	RPRH(-)
43	BR/Y	RPLH(-)
44	V/G	RPLH(+)
51	Y	AIR BAG SIGNAL
52	P	AIR BAG SIGNAL
53	G	CAN-L
54	W	CAN-H
57	R	B-SATELITE LH(+)
58	B	B-SATELITE LH(-)
59	BR	B-SATELITE RH(-)
60	L	B-SATELITE RH(+)
61	BR	FRONT DOOR SATELLITE RH(-)
62	G	FRONT DOOR SATELLITE RH(+)
63	B	FRONT DOOR SATELLITE LH(+)
64	BR	FRONT DOOR SATELLITE LH(-)
65	G	SEAT POS PS(+)
66	BR	SEAT POS PS(-)
67	W	REAR DOOR SATELLITE RH(-)
68	B	REAR DOOR SATELLITE RH(+)
69	R	REAR DOOR SATELLITE LH(+)
70	W	REAR DOOR SATELLITE LH(-)
71	Y	BUCKLE_SWITCH_PS+
72	O	BUCKLE_SWITCH_PS-
73	Y	BUCKLE_SWITCH_DR+
74	O	BUCKLE_SWITCH_DR-
75	V/G	CLH(+)
76	BR/Y	CLH(-)
77	W/BR	CRH(-)
78	R/V	CRH(+)
81	R	FORCE LIMITER PS(-)

82	B	FORCE LIMITER PS(+)
85	P	CZS RH(-)
86	W	CZS RH(+)
87	BR	CZS LH(-)
88	L	CZS LH(+)
89	O	SAB AS(-)
90	Y	SAB AS(+)
93	Y	SAB DR(-)
94	O	SAB DR(+)
95	BR	FPRH(-)
96	L/W	FPRH(+)
97	G	FPLH(+)
98	V	FPLH(-)
100	BR	GND
101	BR	GND
103	Y	KI.15R
104	G	KI.30

Connector No.	M291
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (FRONT END)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
6	W	CAN-H
7	L	CAN-L

Connector No.	M292
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
6	W	CAN-H
7	G	CAN-L

Connector No.	M293
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
8	W	CAN-H
9	G	CAN-L

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CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

Connector No.	M294
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
10	W	CAN-H
11	G	CAN-L

Connector No.	M295
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
12	W	CAN-H
13	G	CAN-L

Connector No.	M296
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
14	W	CAN-H
15	G	CAN-L

Connector No.	M297
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
16	W	CAN-H
17	G	CAN-L

Connector No.	M298
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
6	R	CAN-H
7	BR	CAN-L

Connector No.	M300
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
10	R	CAN-H
11	BR	CAN-L

Connector No.	M321
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
14	R	CAN-H
15	BR	CAN-L

Connector No.	M322
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
16	R	CAN-H
17	BR	CAN-L

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CAN SYSTEM (WITH 2.0L TURBO GASOLINE ENGINE)

Connector No.	M323
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
18	R	CAN-H
19	BR	CAN-L

Connector No.	M324
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
20	R	CAN-H
21	BR	CAN-L

Connector No.	M325
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
22	R	CAN-H
23	BR	CAN-L

Connector No.	M326
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR [POWERTRAIN]
Connector Type	MB_A0285450526

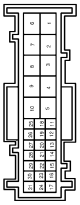
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
6	W	CAN-H
7	L	CAN-L

Connector No.	M614
Connector Name	WIRE TO WIRE
Connector Type	MB_A0085402081

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	-	-
4	-	-
18	-	-
29	-	-
30	-	-

Connector No.	M615
Connector Name	DRIVER SEAT CONTROL UNIT
Connector Type	A2465400509

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	BATTERY POWER SUPPLY
4	BR	GROUND
18	R	BATTERY POWER SUPPLY
29	R	CAN-H
30	BR	CAN-L

Connector No.	M617
Connector Name	WIRE TO WIRE
Connector Type	MB_A0085402081

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
3	-	-
4	-	-
13	-	-
18	-	-
29	-	-
30	-	-
31	-	-

Connector No.	M618
Connector Name	PASSENGER SEAT CONTROL UNIT
Connector Type	A0085402281

H.S.

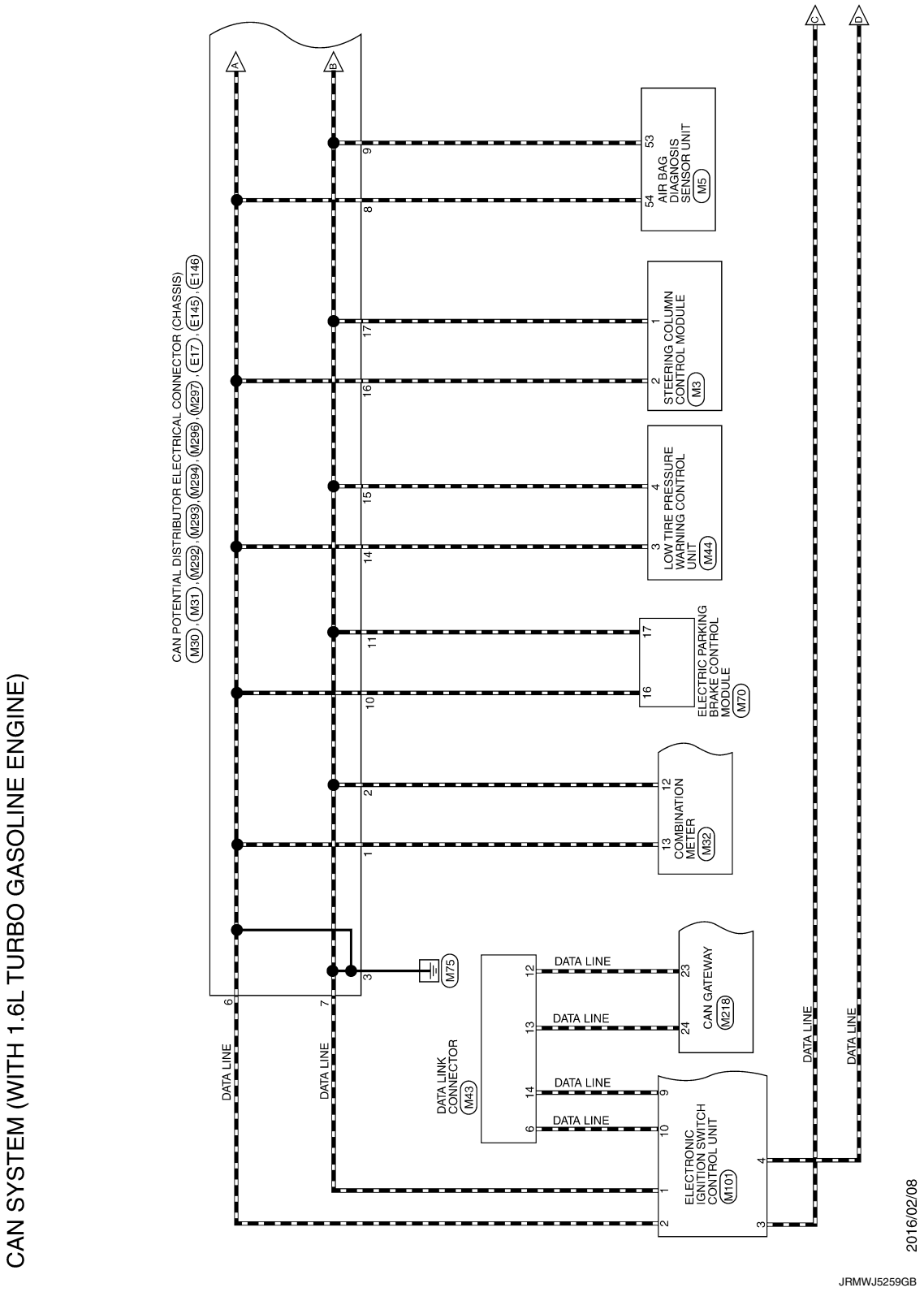
Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	BATTERY POWER SUPPLY
4	BR	GROUND
13	BR	GROUND
18	R	BATTERY POWER SUPPLY
29	R	CAN-H
30	BR	CAN-L
31	-	-

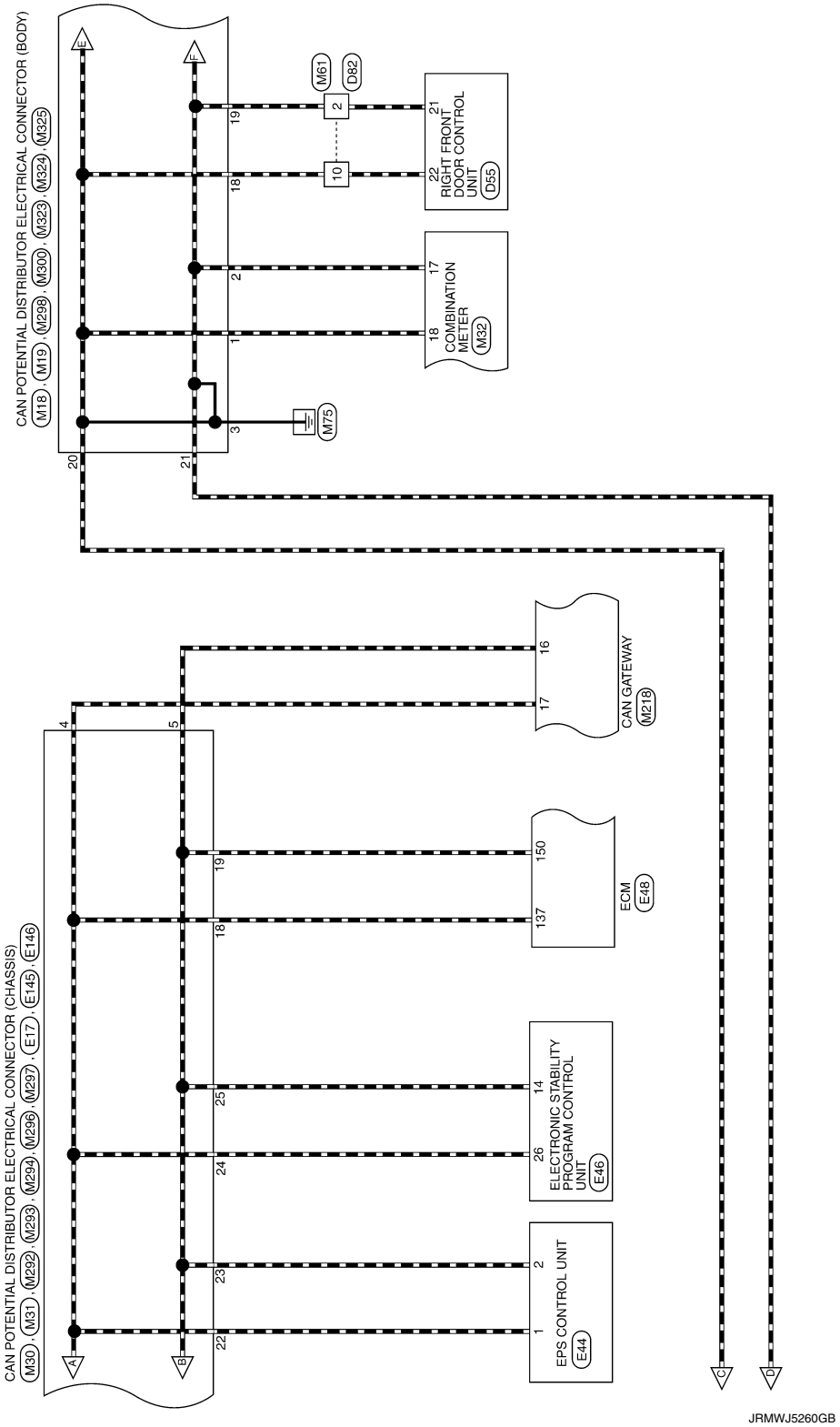
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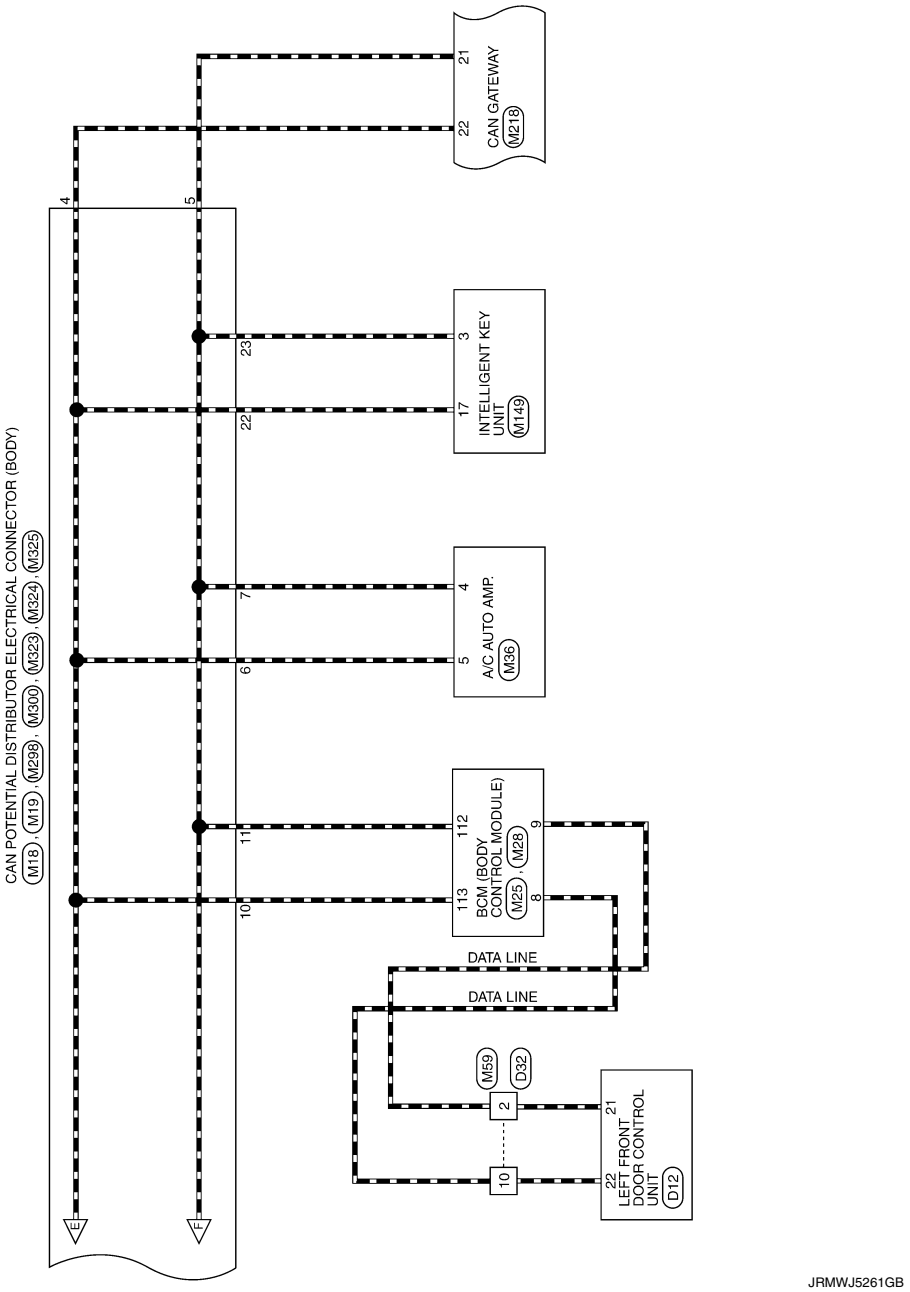
CAN SYSTEM (WITH 1.6L TURBO GASOLINE ENGINE)

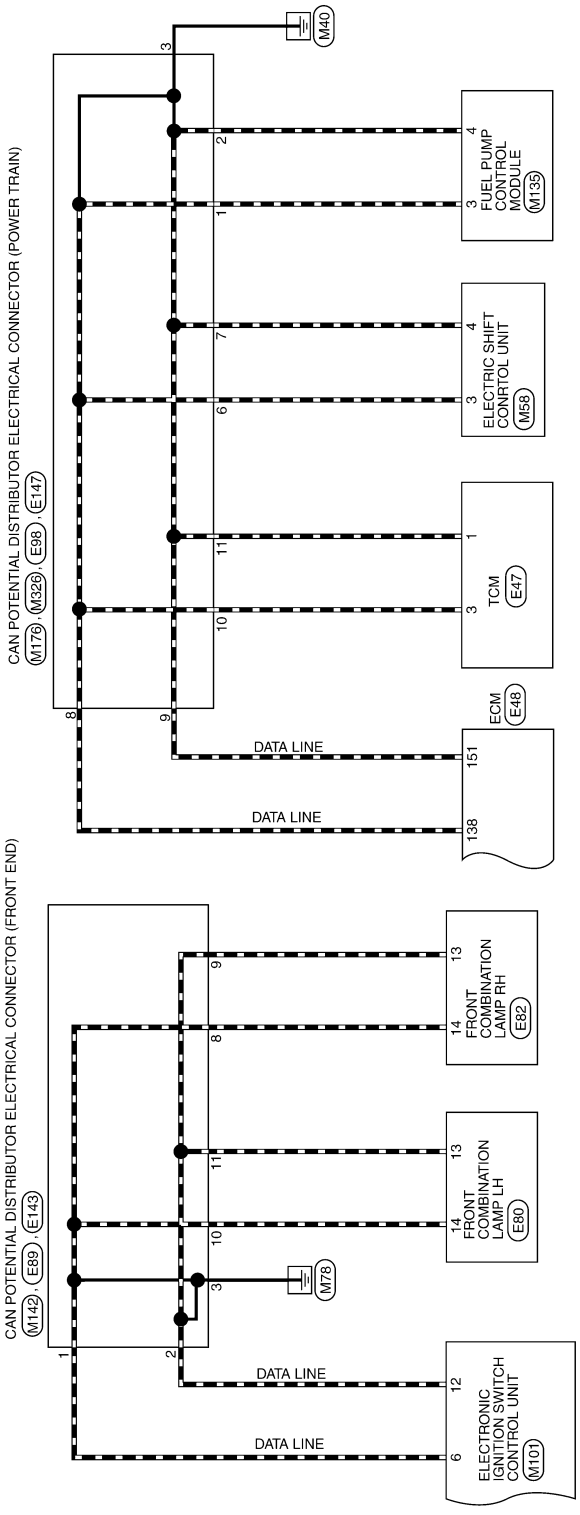
Wiring Diagram

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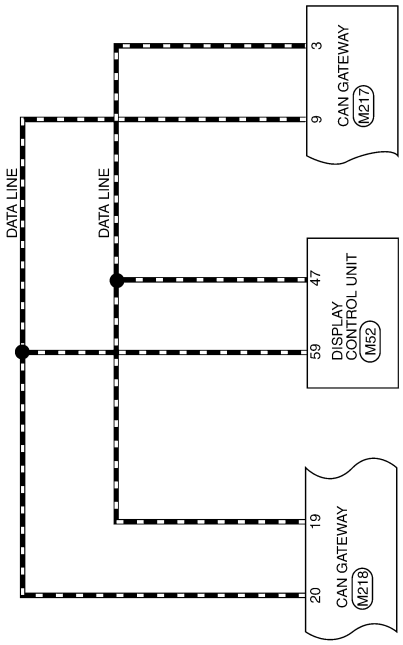



CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
M18, M19, M298, M300, M323, M324, M325
CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
M30, M31, M292, M293, M294, M296, M297, E17, E145, E146
M61
D82
M75
RIGHT FRONT DOOR CONTROL UNIT
D55
COMBINATION METER
M32
CAN GATEWAY
M218
ECM
E48
ELECTRONIC STABILITY PROGRAM CONTROL UNIT
E46
EPS CONTROL UNIT
E44
JRMWJ5260GB

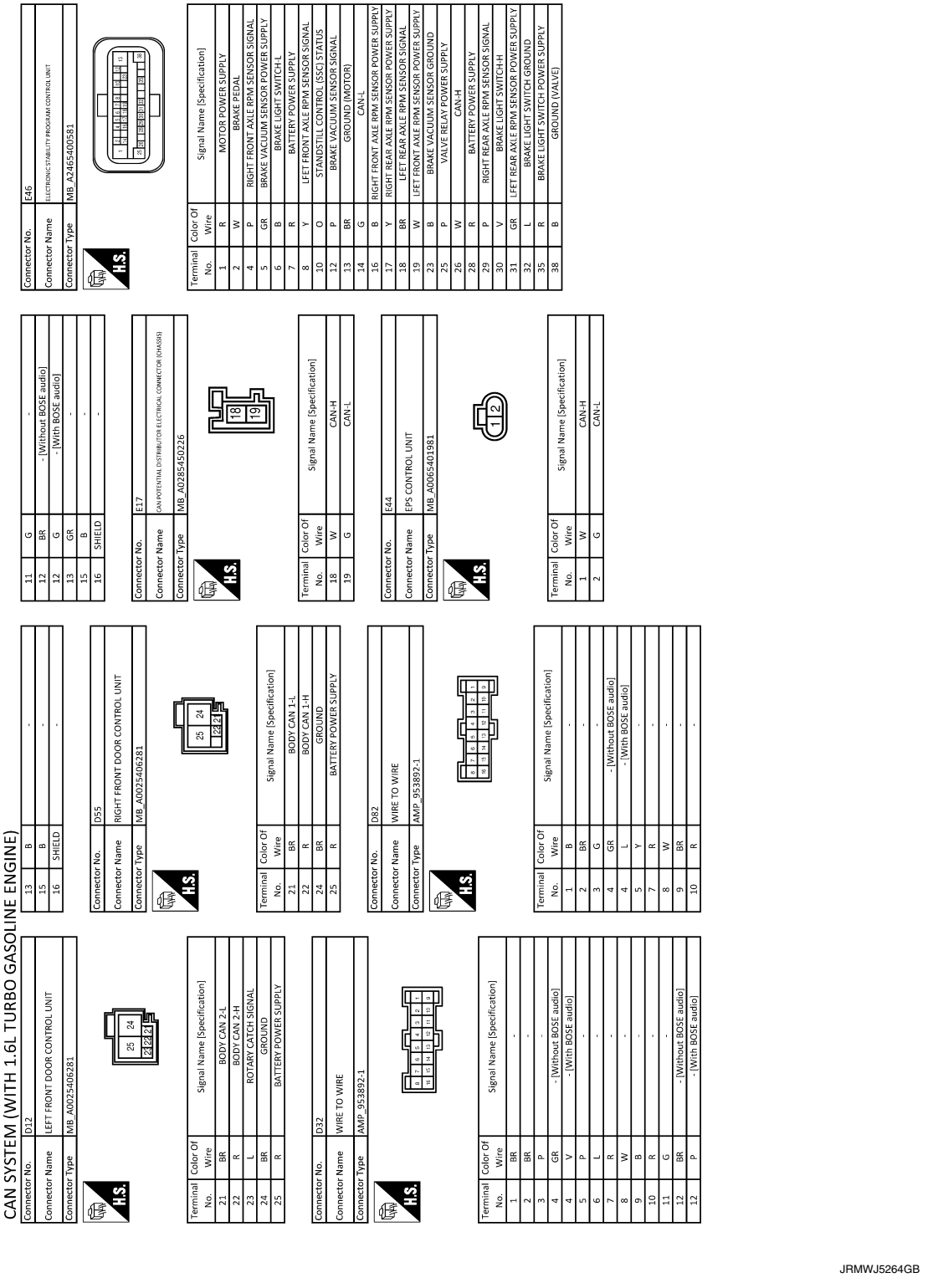

CAN GATEWAY
M218
21
22
INTELLIGENT KEY UNIT
M149
3
17
A/C AUTO AMP.
M36
4
5
BCM (BODY CONTROL MODULE)
M25
M28
112
113
9
8
LEFT FRONT DOOR CONTROL UNIT
D12
21
22
M59
D32
2
10
CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
M18
M19
M298
M300
M323
M324
M325
4
5
23
22
7
6
11
10
DATA LINE
DATA LINE
JRMWJ5261GB



JRMWJ5262GB



JRMWJ5263GB



JRMWJ5264GB

CAN SYSTEM (WITH 1.6L TURBO GASOLINE ENGINE)

Connector No.	E47
Connector Name	TCM
Connector Type	MB_A2465450026

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-L
2	V	NOT P
3	GR	CAN-H
5	W	BATTERY POWER SUPPLY

Connector No.	E48
Connector Name	ECM
Connector Type	MB_A0075406981

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
97	R	POWER SUPPLY (ECM)
98	BR	ECM GROUND
99	V	POWER SUPPLY (ECM)
100	BR	ECM GROUND
101	R	POWER SUPPLY (ECM)
102	B	ECM GROUND
103	L	COOLING FAN CONTROL SIGNAL
104	R	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
105	G	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
106	BR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR1)
111	B	IGNITION SIGNAL
112	Y	POWER SUPPLY (BATTERY)
116	W	STARTER RELAY-L
119	GR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
120	O	SENSOR GROUND
122	R	HOT START SIGNAL
123	GR	MOTOR RELAY CONTROL SIGNAL
127	O	FUEL PUMP ON SIGNAL
132	G	ACCELERATOR PEDAL POSITION SENSOR 1
136	Y	POWERTRAIN SENSOR CAN-H
137	W	CAN-H
138	GR	POWERTRAIN CAN-H
141	B	WATER PUMP RELAY CONTROL SIGNAL
145	W	ACCELERATOR PEDAL POSITION SENSOR 2
146	G	FUEL TANK PRESSURE SENSOR
147	L	CRASH SIGNAL
148	W	STARTER RELAY-H
149	B	POWERTRAIN SENSOR CAN-L
150	G	CAN-L
151	L	POWERTRAIN CAN-L
152	V	EVAP CANISTER VENT CONTROL VALVE
153	BR	EVAP PURGE CONTROL VALVE

Connector No.	E80
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS06FGY-PR

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10	BR	GROUND
11	R	BATTERY POWER SUPPLY
12	GR	PARKING LAMP SIGNAL
13	L	CAN-H
14	W	CAN-L

Connector No.	E82
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS06FGY-PR

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10	BR	GROUND
11	R	BATTERY POWER SUPPLY
12	GR	PARKING LAMP SIGNAL
13	L	CAN-H
14	W	CAN-L

Connector No.	E89
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (FRONT END)
Connector Type	MB_A0285450226

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
8	W	CAN-H
9	L	CAN-L

Connector No.	E98
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (POWERTRAIN)
Connector Type	MB_A0285450526

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
8	GR	CAN-H
9	L	CAN-L

Connector No.	E143
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (FRONT END)
Connector Type	MB_A0285450226

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10	W	CAN-H
11	L	CAN-L

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CAN SYSTEM (WITH 1.6L TURBO GASOLINE ENGINE)

Connector No.	E145
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
22	W	CAN-H
23	G	CAN-L

Connector No.	E146
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
24	W	CAN-H
25	G	CAN-L

Connector No.	E147
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (POWERTRAIN)
Connector Type	MB_A0285450526

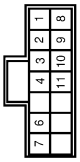
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
10	GR	CAN-H
11	L	CAN-L

Connector No.	M3
Connector Name	STEERING COLUMN CONTROL MODULE
Connector Type	MB_A2045401281

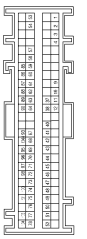
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	CAN-L (CHASSIS)
2	W	CAN-H (CHASSIS)
3	BR	GND
4	R	KL30G
6	R	KL30
7	BR	GND
8	L	AB1+
9	Y	AB1-
10	V	AB2+
11	G	AB2-

Connector No.	M5
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	MB_A0095405681

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BUMPER SENSOR RH GROUND
2	W	BUMPER SENSOR RH SIGNAL
3	B	BUMPER SENSOR LH SIGNAL
4	W	BUMPER SENSOR LH GROUND
9	L/G	POP-UP ENGINE HOOD ACTUATOR RH (-)
10	BR/B	POP-UP ENGINE HOOD ACTUATOR RH (+)
11	O	POP-UP ENGINE HOOD ACTUATOR LH (+)
12	BR/W	POP-UP ENGINE HOOD ACTUATOR LH (-)
37	V	FUSE(-)
38	W	FUSE(+)
40	Y	OCCUPANT LIN SIGNAL
41	V/G	RPRH(+)
42	BR/Y	RPRH(-)
43	BR/Y	RPLH(-)
44	V/G	RPLH(+)
45	B	REAR BUCKLE SWITCH RH(-)
46	G	REAR BUCKLE SWITCH RH(+)
47	B	REAR BUCKLE SWITCH CENTER(-)
48	G	REAR BUCKLE SWITCH CENTER(+)
49	B	REAR BUCKLE SWITCH RH(-)
50	G	REAR BUCKLE SWITCH RH(+)
51	Y	AIR BAG SIGNAL
52	P	AIR BAG SIGNAL
53	G	CAN-L
54	W	CAN-H
57	R	B-SATELITE LH(+)
58	B	B-SATELITE LH(-)
59	BR	B-SATELITE RH(-)
60	L	B-SATELITE RH(+)
61	BR	FRONT DOOR SATELLITE RH(-)
62	G	FRONT DOOR SATELLITE RH(+)
63	B	FRONT DOOR SATELLITE LH(+)
64	BR	FRONT DOOR SATELLITE LH(-)
67	W	REAR DOOR SATELLITE RH(-)
68	B	REAR DOOR SATELLITE RH(+)
69	R	REAR DOOR SATELLITE LH(+)
70	W	REAR DOOR SATELLITE LH(-)
71	Y	BUCKLE SWITCH AS(+)
72	O	BUCKLE SWITCH AS(-)
73	Y	BUCKLE SWITCH DR(+)
74	O	BUCKLE SWITCH DR(-)
75	V/G	CLH(+)
76	BR/Y	CLH(-)
77	W/BR	CRH(+)
78	R/V	CRH(-)
85	P	CZS RH(-)
86	W	CZS RH(+)
87	BR	CZS LH(-)
88	L	CZS LH(+)
89	O	SAB AS(-)
90	Y	SAB AS(+)
93	Y	SAB DR(+)
94	O	SAB DR(-)
95	BR	FPRH(-)
96	L/W	FPRH(+)
97	G	FPLH(+)
98	V	FPLH(-)
100	BR	GND
101	BR	GND
103	Y	KL15R
104	G	KL30

Connector No.	M18
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
4	R	CAN-H
5	BR	CAN-L

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CAN SYSTEM (WITH 1.6L TURBO GASOLINE ENGINE)

Connector No.	M19
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450826

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	CAN-H
2	BR	CAN-L
3	B	GROUND

Connector No.	M25
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A0075405081

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	ROTARY LIGHT SW GND
2	O	ROTARY LIGHT SW (PU,PR/TAL)
3	R	ROTARY LIGHT SW (AUTO/LOW)
4	G	ROTARY LIGHT SW (FR FOG)
5	Y	-
7	GR	SWITCH INDICATOR
8	R	CAN-H (BODY 2)
9	BR	CAN-L (BODY 2)
12	O	LIN (BS)
14	G	FOOT LAMP

Connector No.	M28
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A1665400481

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
67	V	BACK DOOR UNLOCK
69	GR	STOP LAMP (BODY RH)
70	B	REAR TURN SIGNAL LH
71	GR	BACK-UP LAMP RH
72	Y	LICENSE PLATE LAMP RH
73	L	RR POWER WINDOW SW RH UP
74	B	RR POWER WINDOW SW RH DOWN
75	L	RR POWER WINDOW SW RH GND
76	GR	HALL SENSOR RH POWER SUPPLY
77	R	SUB BAT-
78	B	TERMINAL RELAY 15R1 CONT
80	B	REAR WIPER RELAY CONT
82	GR	TAIL LAMP (BODY LH)
83	P	TERMINAL RELAY 15R2 CONT
85	B	TAIL LAMP (BK LH)
87	R	BAT (VIA LATCHING TERMINAL RELAY 30G)
89	O	HALL SENSOR RH GND
90	V	HALL SENSOR RH SIGNAL
91	P	FUEL LEVEL SENSOR GND
92	L	FUEL LEVEL SENSOR
93	GR	FUEL LEVEL SENSOR
94	Y	FUEL FILLER LID STATUS
97	G	LATCHING TERMINAL RELAY 30G CONT 1
98	B	LATCHING TERMINAL RELAY 30G GND 1
99	W	LATCHING TERMINAL RELAY 30G GND 2
100	V	LATCHING TERMINAL RELAY 30G CONT 2
101	Y	REAR DOOR INSIDE HANDLE LAMP CONT
102	GR	AMBIENT LAMP CONT
103	V	SUB BAT RELAY CONT
105	G	RR DOOR LH UNLOCK
106	W	FUEL FILLER LID UNLOCK
107	L	RR DOOR LH LOCK
108	R	SUB BAT+
109	O	LIN (ROOF)
112	BR	CAN-L (BODY 1)
113	R	CAN-H (BODY 1)

114	B	INJECTION RELAY CONT

Connector No.	M30
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
4	W	CAN-H
5	G	CAN-L

Connector No.	M31
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450926

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	G	CAN-H
3	BR	CAN-L
		GROUND

Connector No.	M32
Connector Name	COMBINATION METER
Connector Type	MB_A0523452726

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	GROUND
4	R	BATTERY POWER SUPPLY
12	GR	CAN-L
13	W	CAN-H
17	BR	CAN-L
18	R	CAN-H

Connector No.	M36
Connector Name	A/C AUTO AMP.
Connector Type	MB_A0025405581

H.S.

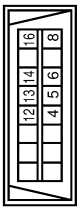
Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	REFRIGERANT PRESSURE SENSOR GROUND
2	B	REFRIGERANT PRESSURE SENSOR SIGNAL
4	BR	CAN-L
5	R	CAN-H
6	V	COMPRESSOR (ECV) CONTROL SIGNAL
8	L	REFRIGERANT PRESSURE SENSOR POWER SUPPLY
10	Y	REAR WINDOW DEFOGGER RELAY CONTROL SIGNAL
11	V	LIN (BLOWER MOTOR)
12	G	COMPRESSOR (ECV) GROUND
13	P	COMPRESSOR (MAGNET CLUTCH) CONTROL SIGNAL
14	R	COOLANT CIRCULATION PUMP CONTROL SIGNAL
15	BR	GROUND
16	O	BATTERY POWER SUPPLY

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CAN SYSTEM (WITH 1.6L TURBO GASOLINE ENGINE)

Connector No.	M43
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
4	B	CHASSIS_GND
5	B	ELECTRONICS_GND
6	GR	DIAGNOSTICS-CAN_H_DAI
8	W	IGN_SW
12	L	DIAGNOSTIC-CAN-L_NIS
13	V	DIAGNOSTIC-CAN_H_NIS
14	GR	DIAGNOSTICS-CAN_L_DAI
16	R	BATTERY

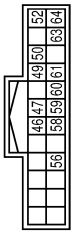
Connector No.	M44
Connector Name	LOW TIRE PRESSURE WARNING CONTROL UNIT
Connector Type	MB_A2105404381

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	O	BATTERY POWER SUPPLY
2	BR	GROUND
3	W	CAN-H
4	G	CAN-L

Connector No.	M52
Connector Name	DISPLAY CONTROL UNIT
Connector Type	TH24FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
46	G	AV COMMUNICATION SIGNAL (L)
47	P	CAN-L
49	R	DIMMER SIGNAL
50	BR	REVERSE SIGNAL
52	B	GROUND
56	BR	CAMERA SWITCH SIGNAL
58	Y	AV COMMUNICATION SIGNAL (H)
59	L	CAN-H
60	W	IGNITION SIGNAL
61	R	VEHICLE SPEED SIGNAL (8-PULSE)
63	L	ACC POWER SUPPLY
64	Y	BATTERY POWER SUPPLY

Connector No.	M58
Connector Name	ELECTRIC SHIFT CONTROL UNIT
Connector Type	MB_A0385457228

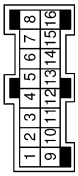
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	BATTERY POWER SUPPLY
2	BR	GROUND
3	W	CAN-H
4	L	CAN-L

Connector No.	M59
Connector Name	WIRE TO WIRE
Connector Type	AMP_953893-1

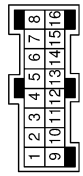
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	BR	-
3	O	-
4	V	- [With BOSE audio]
4	W	- [Without BOSE audio]
5	P	-
6	L	-
7	R	-
8	W	-
9	B	-
10	R	-
11	G	-
12	L	- [Without BOSE audio]
12	P	- [With BOSE audio]
15	B	-
16	SHIELD	-

Connector No.	M61
Connector Name	WIRE TO WIRE
Connector Type	AMP_953893-1

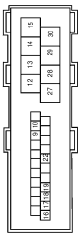
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	BR	-
3	G	-
4	L	- [With BOSE audio]
4	Y	- [Without BOSE audio]
5	V	-
7	R	-
8	W	-
9	BR	-
10	R	-
11	O	-
12	BR	- [Without BOSE audio]
12	G	- [With BOSE audio]
13	GR	-
15	B	-
16	SHIELD	-

Connector No.	M70
Connector Name	ELECTRIC PARKING BRAKE CONTROL MODULE
Connector Type	MB_A0085409281

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
9	G	ELECTRIC PARKING BRAKE SWITCH 1
10	P	ELECTRIC PARKING BRAKE SWITCH 2
12	R	MOTOR RH (+)
13	W	MOTOR POWER SUPPLY (RH)
14	R	MOTOR LH (+)
15	R	MOTOR POWER SUPPLY (LH)
16	W	CAN-H
17	G	CAN-L
18	O	ELECTRIC PARKING BRAKE SWITCH 3
19	G	ELECTRIC PARKING BRAKE SWITCH 4
22	B	POWER SUPPLY
27	Y	MOTOR RH (-)
28	BR	GROUND (MOTOR RH)
29	V	MOTOR LH (-)
30	BR	GROUND (MOTOR LH)

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CAN SYSTEM (WITH 1.6L TURBO GASOLINE ENGINE)

Connector No.	M101
Connector Name	ELECTRONIC IGNITION SWITCH CONTROL UNIT
Connector Type	MB_A0265458426

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	CHASSIS CAN-L
2	W	CHASSIS CAN-H
3	R	BODY CAN 1-H
4	BR	BODY CAN 1-L
6	W	STEERING LOCK OPERATION
9	GR	REMOTE KEYLESS
10	W	POWER SUPPLY
11	BR	DIAGNOSTIC CAN-L
12	L	DIAGNOSTIC CAN-H

Connector No.	M135
Connector Name	FUEL PUMP CONTROL MODULE
Connector Type	MB_A0255458876

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	FUEL PUMP ACTIVATION REQUEST
3	W	POWERTRAIN CAN-H
4	L	POWERTRAIN CAN-L
5	GR	BATTERY POWER SUPPLY
6	O	SENSOR GROUND
7	V	FUEL PRESSURE SENSOR
8	G	SENSOR POWER SUPPLY

Connector No.	M142
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (FRONT END)
Connector Type	MB_A0285459026

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	CAN-H
2	L	CAN-L
3	BR	GROUND

Connector No.	M149
Connector Name	INTELLIGENT KEY UNIT
Connector Type	MB_A0045407281

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
3	BR	BODY CAN 1-L
5	L	REAR INSIDE KEY ANTENNA SIG 1
6	Y	OUTSIDE KEY ANTENNA RH SIG 1
7	G	OUTSIDE KEY ANTENNA LH SIG 1
8	W	FRONT INSIDE KEY ANTENNA SIG 1
11	GR	FR I-KEY DOOR HANDLE RH GND
12	B	FR I-KEY DOOR HANDLE LH GND
15	R	BATTERY POWER SUPPLY
17	R	BODY CAN 1-H
18	B	KEYLESS COMMUNICATION SIG
19	R	REAR INSIDE KEY ANTENNA SIG 2
20	O	OUTSIDE KEY ANTENNA RH SIG 2
21	V	OUTSIDE KEY ANTENNA LH SIG 2
22	B	FRONT INSIDE KEY ANTENNA SIG 2
25	V	FR I-KEY DOOR HANDLE RH SIG
26	P	FR I-KEY DOOR HANDLE LH SIG

Connector No.	M176
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (POWERTRAIN)
Connector Type	MB_A0285451226

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	CAN-H
2	L	CAN-L
3	BR	GROUND

Connector No.	M217
Connector Name	CAN GATEWAY
Connector Type	MB_A0225400481

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	SOS SWITCH LED SIGNAL
2	R	DIMMER SIGNAL
3	P	MULTIFUNCTION MEDIA CAN-L
4	O	ENGINE SPEED SIGNAL
7	BR	REVERSE SIGNAL
8	V	ACC POWER SUPPLY
9	L	MULTIFUNCTION MEDIA CAN-H
10	W	SOS CALL SWITCH SIGNAL
11	Y	VEHICLE SPEED SIGNAL
12	W	ILLUMINATION CONTROL SIGNAL

Connector No.	M218
Connector Name	CAN GATEWAY
Connector Type	MB_A0225400581

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
13	B	GROUND
14	G	AV COMMUNICATION-L
15	L	AV COMMUNICATION-H
16	G	CHASSIS CAN-L
17	W	CHASSIS CAN-H
18	O	BATTERY POWER SUPPLY
19	P	MULTIFUNCTION MEDIA CAN-L
20	L	MULTIFUNCTION MEDIA CAN-H
21	BR	BODY CAN 1-L
22	R	BODY CAN 1-H
23	L	DIAGNOSTIC CAN-L
24	V	DIAGNOSTIC CAN-H

Connector No.	M292
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
6	W	CAN-H
7	G	CAN-L

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CAN SYSTEM (WITH 1.6L TURBO GASOLINE ENGINE)

Connector No.	M293
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
8	W	CAN-H
9	G	CAN-L

Connector No.	M294
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
10	W	CAN-H
11	G	CAN-L

Connector No.	M296
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
14	W	CAN-H
15	G	CAN-L

Connector No.	M297
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)
Connector Type	MB_A0285450226

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
16	W	CAN-H
17	G	CAN-L

Connector No.	M298
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
6	R	CAN-H
7	BR	CAN-L

Connector No.	M300
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
10	R	CAN-H
11	BR	CAN-L

Connector No.	M323
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
18	R	CAN-H
19	BR	CAN-L

Connector No.	M324
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
20	R	CAN-H
21	BR	CAN-L

JRMWJ5270GB

CAN SYSTEM (WITH 1.6L TURBO GASOLINE ENGINE)

Connector No.	M325
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)
Connector Type	MB_A0285450126

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
22	R	CAN-H
23	BR	CAN-L

Connector No.	M326
Connector Name	CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (POWERTRAIN)
Connector Type	MB_A0285450526

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
6	W	CAN-H
7	L	CAN-L

JRMWJ5271GB

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Trouble Diagnosis Flow Chart

INFOID:0000000013768087

1.CAN SYSTEM TYPE CONFIRMATION

Confirm the CAN system type based on vehicle specification and equipment. Refer to LAN-19, "CAN COMMUNICATION SYSTEM : CAN System Specification Chart".

>> GO TO 2.

2.CAN DIAGNOSIS

With CONSULT
Perform CAN diagnosis function on CONSULT.
NOTE:
If ECU is not equipped, an error will be displayed on CAN diagnosis function. However it is not malfunction on the vehicle. Refer to LAN-21, "CAN COMMUNICATION SYSTEM : Vehicle Equipment Identification Information".

Is any error detected?

YES >> GO TO 3.
NO >> CAN communication circuit is normal.

3.NETWORK GROUP TROUBLE DIAGNOSIS

Perform the diagnosis for the error occurred network group.
NOTE:
If error occurred in plural network, check network group according to priority in the table.

Priority	Network Group	Reference
1	Diagnostic CAN communication	LAN-59, "Diagnosis Procedure"
2	Body CAN communication 1	LAN-65, "Diagnosis Procedure"
3	Chassis CAN communication	LAN-69, "Diagnosis Procedure"
4	Powertrain CAN communication	LAN-72, "Diagnosis Procedure"
5	Front end CAN communication	LAN-62, "Diagnosis Procedure"
6	Multifunction media CAN communication	LAN-60, "Diagnosis Procedure"
7	Body CAN communication 2	LAN-68, "Diagnosis Procedure"

>> GO TO 4.

4.REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement.

>> GO TO 5.

5.FINAL CHECK

With CONSULT
1. Check all DTC. If DTC is detected, erase DTCs.
2. Perform CAN diagnosis function on CONSULT.

Is any error detected?

YES >> GO TO 3.
NO >> INSPECTION END

DTC/CIRCUIT DIAGNOSIS

DIAGNOSTIC CAN COMMUNICATION

Diagnosis Procedure

INFOID:0000000013768088

1.CHECK ECU CIRCUIT

Check a circuit for applicable ECU. Refer to following.

Unit name	Circuit	Reference
Electronic ignition switch control unit	Circuit between the data link connector and the electronic ignition switch control unit	LAN-139, "Diagnosis Procedure"
CAN gateway	Circuit between the data link connector and the CAN gateway	LAN-141, "Diagnosis Procedure"

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> Repair or replace applicable parts.

MULTIFUNCTION MEDIA CAN COMMUNICATION

Diagnosis Procedure

INFOID:0000000013768089

1.CHECK ROOT CAUSE CIRCUIT

Check the root cause circuit that detected with CAN diagnosis function of CONSULT.

Branch Line>>GO TO 2.
Short Circuit>>GO TO 3.

2.CHECK BRANCH LINE CIRCUIT

Check a branch line circuit for applicable ECU. Refer to following.

Malfunction area	Reference
Display control unit branch line circuit	LAN-145, "Diagnosis Procedure"
Around view monitor control unit branch line circuit	LAN-146, "Diagnosis Procedure"
TCU branch line circuit	LAN-147, "Diagnosis Procedure"

>> INSPECTION END

3.CONNECTOR INSPECTION

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the terminals and connectors of CAN gateway for damage, bend and loose connection (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair the terminal and connector.

4.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector				Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M218	20	M217	9	Existed
	19		3	Existed

Is the inspection result normal?

YES >> GO TO 5.
NO >> Check the harness and repair or replace the root cause.

5.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

1. Disconnect all the unit connectors on multifunction media CAN communication circuit.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector			Continuity
Connector No.	Terminal No.		
M218	20	19	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Check the harness and repair or replace the root cause.

6.CHECK HARNESS CONTINUITY (SHORT CIRCUIT)

Check the continuity between the CAN gateway harness connector and the ground.

CAN gateway harness connector		Ground	Continuity
Connector No.	Terminal No.		
M218	20		Not existed
	19		Not existed

Is the inspection result normal?

YES >> GO TO 7.
NO >> Check the harness and repair or replace the root cause.

7. CHECK CAN GATEWAY TERMINATION CIRCUIT

1. Remove the CAN gateway.
2. Check the resistance between the CAN gateway terminals.

CAN gateway		Resistance (Ω)
Terminal No.		
20	19	Approx. 108 – 132
9	3	Approx. 108 – 132

Is the measurement value within the specification?

YES >> GO TO 8.
NO >> Replace the CAN gateway. Refer to LAN-218, "Removal and Installation".

8. CHECK SYMPTOM

Connect all the connectors. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.

Inspection result

Reproduced>>GO TO 9.
Non-reproduced>>Start the diagnosis again. Follow the trouble diagnosis procedure when past error is detected.

9. CHECK UNIT REPRODUCTION

Perform the reproduction test as per the following procedure for each unit.

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Disconnect one of the unit connectors of multifunction media CAN communication circuit.
   NOTE:
   CAN gateway has two termination circuits. Check other units first.
4. Connect the battery cable to the negative terminal. Check if the symptoms described in the “Symptom (Results from interview with customer)” are reproduced.
   NOTE:
   Although unit-related error symptoms occur, do not confuse them with other symptoms.

Inspection result

Reproduced>>Connect the connector. Check other units as per the above procedure.
Non-reproduced>>Replace the unit whose connector was disconnected.

FRONT END CAN COMMUNICATION

Diagnosis Procedure

INFOID:0000000013768090

1.ERROR ECU CONFIRMATION

Confirm whether there is error in one ECU or plural ECU on CAN diagnosis function with CONSULT.

Is error in one ECU or plural ECU?

One ECU>>GO TO 2.
Plural ECU>>GO TO 3.

2.CHECK ECU CIRCUIT

Check a circuit for applicable ECU. Refer to following.

Unit name	Circuit	Reference
Electronic ignition switch control unit	Circuit between the CAN potential distributor electrical connector (Front end) and the electronic ignition switch control unit	LAN-85, "Diagnosis Procedure"
Front camera unit	Circuit between the CAN potential distributor electrical connector (Front end) and the front camera unit	LAN-87, "Diagnosis Procedure"
Headlamp control unit LH	Circuit between the CAN potential distributor electrical connector (Front end) and the front combination lamp LH	LAN-89, "Diagnosis Procedure"
Headlamp control unit RH	Circuit between the CAN potential distributor electrical connector (Front end) and the front combination lamp RH	LAN-91, "Diagnosis Procedure"
Side radar LH	Circuit between the CAN potential distributor electrical connector (Front end) and the side radar LH	LAN-93, "Diagnosis Procedure"
Side radar RH	Circuit between the CAN potential distributor electrical connector (Front end) and the side radar RH	LAN-95, "Diagnosis Procedure"

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace applicable parts.

3.CHECK CAN CIRCUIT VOLTAGE

1. Turn ignition switch ON.
2. Check voltage between CAN potential distributor electrical connector (Front end) harness connector each terminals.

Terminals		Voltage (Approx.)
+	–	
CAN potential distributor electrical connector (Front end)		
Terminal	Terminal	
CAN-H	Ground	3.0 – 3.2 V
CAN-L	Ground	2.8 – 3.0 V
CAN-H	CAN-L	0.1 – 0.2 V

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> GO TO 4.

4.CHECK HARNESS CONNECTOR CONDITION

1. Turn ignition switch OFF.
2. Check each harness connector connected to CAN potential distributor electrical connector for proper connection, locking, loose contact, damage, contamination and corrosion.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Securely connects or repair the harness connectors.

5. CHECK CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect all of harness connector from CAN potential distributor electrical connector (Front end).
3. Check CAN potential distributor electrical connector (Front end). Refer to LAN-64, "Component Inspection [CAN Potential Distributor Electrical Connector (Front End)]".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace CAN potential distributor electrical connector (Front end).

6. POSSIBLE CAUSE CONFIRMATION

1. Turn ignition switch ON.
2. Check the voltage between CAN potential distributor electrical connector (Front end) terminals (CAN-H and CAN-L).
   NOTE:
   [Recommend] Check CAN potential distributor electrical connector (Front end) terminals that harness connector is not connected.
3. Disconnect each harness connector from CAN potential distributor electrical connector (Front end) one by one.
4. Check the voltage change when the harness connector just disconnected.

Terminals		Condition	Voltage (Approx.)
+	–		
CAN potential distributor electrical connector (Front end)			
Terminal	Terminal		
CAN-H	CAN-L	When the harness connector just disconnected.	No change

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> GO TO 7.

7. CHECK SHORT CIRCUIT

Check the possible cause circuit for short to battery or ground.

Unit name	Circuit	Reference
Electronic ignition switch control unit	Circuit between the CAN potential distributor electrical connector (Front end) and the electronic ignition switch control unit	LAN-85, "Diagnosis Procedure"
Front camera unit	Circuit between the CAN potential distributor electrical connector (Front end) and the front camera unit	LAN-87, "Diagnosis Procedure"
Headlamp control unit LH	Circuit between the CAN potential distributor electrical connector (Front end) and the front combination lamp LH	LAN-89, "Diagnosis Procedure"
Headlamp control unit RH	Circuit between the CAN potential distributor electrical connector (Front end) and the front combination lamp RH	LAN-91, "Diagnosis Procedure"
Side radar LH	Circuit between the CAN potential distributor electrical connector (Front end) and the side radar LH	LAN-93, "Diagnosis Procedure"
Side radar RH	Circuit between the CAN potential distributor electrical connector (Front end) and the side radar RH	LAN-95, "Diagnosis Procedure"

Is the inspection result normal?

YES >> Replace applicable ECU.
NO >> Repair or replace harness.

Component Inspection [CAN Potential Distributor Electrical Connector (Front End)]

INFOID:0000000013768091

1. CHECK CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (FRONT END)

Check resistance between CAN potential distributor electrical connector (Front end) CAN-H and CAN-L terminals.

Terminal		Resistance: Ω
CAN-H	CAN-L	50 – 65

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace CAN potential distributor electrical connector (Front end).

BODY CAN COMMUNICATION 1

Diagnosis Procedure

INFOID:0000000013768092

1.ERROR ECU CONFIRMATION

Confirm whether there is error in one ECU or plural ECU on CAN diagnosis function with CONSULT.

Is error in one ECU or plural ECU?

One ECU>>GO TO 2.
Plural ECU>>GO TO 3.

2.CHECK ECU CIRCUIT

Check a circuit for applicable ECU. Refer to following.

Unit name	Circuit	Reference
A/C auto amp.	Circuit between the CAN potential distributor electrical connector (Body) and the A/C auto amp.	LAN-121, "Diagnosis Procedure"
BCM	Circuit between the CAN potential distributor electrical connector (Body) and the BCM (Body Control Module)	LAN-123, "Diagnosis Procedure"
CAN gateway	Circuit between the CAN potential distributor electrical connector (Body) and the CAN gateway	LAN-125, "Diagnosis Procedure"
Combination meter	Circuit between the CAN potential distributor electrical connector (Body) and the combination meter	LAN-127, "Diagnosis Procedure"
Driver seat control unit	Circuit between the CAN potential distributor electrical connector (Body) and the driver seat control unit	LAN-129, "Diagnosis Procedure"
Electronic ignition switch control unit	Circuit between the CAN potential distributor electrical connector (Body) and the electronic ignition switch control unit	LAN-131, "Diagnosis Procedure"
Intelligent Key unit	Circuit between the CAN potential distributor electrical connector (Body) and the Intelligent Key unit	LAN-133, "Diagnosis Procedure"
Passenger seat control unit	Circuit between the CAN potential distributor electrical connector (Body) and the passenger seat control unit	LAN-135, "Diagnosis Procedure"
Right front door control unit	Circuit between the CAN potential distributor electrical connector (Body) and the right front door control unit	LAN-137, "Diagnosis Procedure"

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace applicable parts.

3.CHECK CAN CIRCUIT VOLTAGE

1. Turn ignition switch ON.
2. Check voltage between CAN potential distributor electrical connector (Body) harness connector each terminals.

Terminals		Voltage (Approx.)
+	–	
CAN potential distributor electrical connector (Body)		
Terminal	Terminal	
CAN-H	Ground	2.5 – 2.7 V
CAN-L	Ground	2.1 – 2.3 V
CAN-H	CAN-L	0.2 – 0.4 V

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> GO TO 4.

4.CHECK HARNESS CONNECTOR CONDITION

1. Turn ignition switch OFF.
2. Check each harness connector connected to CAN potential distributor electrical connector for proper connection, locking, loose contact, damage, contamination and corrosion.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Securely connects or repair the harness connectors.

5.CHECK CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect all of harness connector from CAN potential distributor electrical connector (Body).
3. Check CAN potential distributor electrical connector (Body). Refer to LAN-67, "Component Inspection [CAN Potential Distributor Electrical Connector(Body)]".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace CAN potential distributor electrical connector (Body).

6.POSSIBLE CAUSE CONFIRMATION

1. Turn ignition switch ON.
2. Check the voltage between CAN potential distributor electrical connector (Body) terminals (CAN-H and CAN-L).
   NOTE:
   [Recommend] Check CAN potential distributor electrical connector (Body) terminals that harness connector is not connected.
3. Disconnect each harness connector from CAN potential distributor electrical connector (Body) one by one.
4. Check the voltage change when the harness connector just disconnected.

Terminals		Condition	Voltage (Approx.)
+	–		
CAN potential distributor electrical connector (Body)			
Terminal	Terminal		
CAN-H	CAN-L	When the harness connector just disconnected.	No change

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> GO TO 7.

7.CHECK SHORT CIRCUIT

Check the possible cause circuit for short to battery or ground.

Unit name	Circuit	Reference
A/C auto amp.	Circuit between the CAN potential distributor electrical connector (Body) and the A/C auto amp.	LAN-121, "Diagnosis Procedure"
BCM	Circuit between the CAN potential distributor electrical connector (Body) and the BCM (Body Control Module)	LAN-123, "Diagnosis Procedure"
CAN gateway	Circuit between the CAN potential distributor electrical connector (Body) and the CAN gateway	LAN-125, "Diagnosis Procedure"
Combination meter	Circuit between the CAN potential distributor electrical connector (Body) and the combination meter	LAN-127, "Diagnosis Procedure"
Driver seat control unit	Circuit between the CAN potential distributor electrical connector (Body) and the driver seat control unit	LAN-129, "Diagnosis Procedure"

Unit name	Circuit	Reference
Electronic ignition switch control unit	Circuit between the CAN potential distributor electrical connector (Body) and the electronic ignition switch control unit	LAN-131, "Diagnosis Procedure"
Intelligent Key unit	Circuit between the CAN potential distributor electrical connector (Body) and the Intelligent Key unit	LAN-133, "Diagnosis Procedure"
Passenger seat control unit	Circuit between the CAN potential distributor electrical connector (Body) and the passenger seat control unit	LAN-135, "Diagnosis Procedure"
Right front door control unit	Circuit between the CAN potential distributor electrical connector (Body) and the right front door control unit	LAN-137, "Diagnosis Procedure"

Is the inspection result normal?

YES >> Replace applicable ECU.
NO >> Repair or replace harness.

Component Inspection [CAN Potential Distributor Electrical Connector(Body)]

INFOID:0000000013768093

1. CHECK CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (BODY)

Check resistance between CAN potential distributor electrical connector (Body) CAN-H and CAN-L terminals.

Terminal		Resistance: Ω
CAN-H	CAN-L	50 – 65

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace CAN potential distributor electrical connector (Body).

BODY CAN COMMUNICATION 2

Diagnosis Procedure

INFOID:0000000013768094

1.CHECK ECU CIRCUIT

Check a circuit for applicable ECU. Refer to following.

Unit name	Circuit	Reference
Left front door control unit	Circuit between the BCM and the left front door control unit	LAN-143, "Diagnosis Procedure"

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> Repair or replace applicable parts.

CHASSIS CAN COMMUNICATION

Diagnosis Procedure

INFOID:0000000013768095

1.ERROR ECU CONFIRMATION

Confirm whether there is error in one ECU or plural ECU on CAN diagnosis function with CONSULT.

Is error in one ECU or plural ECU?

One ECU>>GO TO 2.
Plural ECU>>GO TO 3.

2.CHECK ECU CIRCUIT

Check a circuit for applicable ECU. Refer to following.

Unit name	Circuit	Reference
Air bag diagnosis sensor unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the air bag diagnosis sensor unit	LAN-97, "Diagnosis Procedure"
CAN gateway	Circuit between the CAN potential distributor electrical connector (Chassis) and the CAN gateway	LAN-99, "Diagnosis Procedure"
Combination meter	Circuit between the CAN potential distributor electrical connector (Chassis) and the combination meter	LAN-101, "Diagnosis Procedure"
ECM	Circuit between the CAN potential distributor electrical connector (Chassis) and the ECM	LAN-103, "Diagnosis Procedure"
Electric parking brake control module	Circuit between the CAN potential distributor electrical connector (Chassis) and the electric parking brake control module	LAN-105, "Diagnosis Procedure"
Electronic ignition switch control unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the electronic ignition switch control unit	LAN-107, "Diagnosis Procedure"
Electronic stability program control unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the electronic stability program control unit	LAN-109, "Diagnosis Procedure"
EPS control unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the EPS control unit	LAN-111, "Diagnosis Procedure"
ICC sensor	Circuit between the CAN potential distributor electrical connector (Chassis) and the ICC sensor	LAN-113, "Diagnosis Procedure"
Low tire pressure warning control unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the low tire pressure warning control unit	LAN-115, "Diagnosis Procedure"
Sonar control unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the sonar control unit	LAN-117, "Diagnosis Procedure"
Steering column control module	Circuit between the CAN potential distributor electrical connector (Chassis) and the steering column control module	LAN-119, "Diagnosis Procedure"

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace applicable parts.

3.CHECK CAN CIRCUIT VOLTAGE

1. Turn ignition switch ON.
2. Check voltage between CAN potential distributor electrical connector (Chassis) harness connector each terminals.

Terminals		Voltage (Approx.)
+	–	
CAN potential distributor electrical connector (Chassis)		
Terminal	Terminal	
CAN-H	Ground	2.6 – 2.9 V
CAN-L	Ground	2.1 – 2.4 V
CAN-H	CAN-L	0.3 – 0.6 V

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> GO TO 4.

4. CHECK HARNESS CONNECTOR CONDITION

1. Turn ignition switch OFF.
2. Check each harness connector connected to CAN potential distributor electrical connector for proper connection, locking, loose contact, damage, contamination and corrosion.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Securely connects or repair the harness connectors.

5. CHECK CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect all of harness connector from CAN potential distributor electrical connector (Chassis).
3. Check CAN potential distributor electrical connector (Chassis). Refer to LAN-71, "Component Inspection [CAN Potential Distributor Electrical Connector (Chassis)]".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace CAN potential distributor electrical connector (Chassis).

6. POSSIBLE CAUSE CONFIRMATION

1. Turn ignition switch ON.
2. Check the voltage between CAN potential distributor electrical connector (Chassis) terminals (CAN-H and CAN-L).
   NOTE:
   [Recommend] Check CAN potential distributor electrical connector (Chassis) terminals that harness connector is not connected.
3. Disconnect each harness connector from CAN potential distributor electrical connector (Chassis) one by one.
4. Check the voltage change when the harness connector just disconnected.

Terminals		Condition	Voltage (Approx.)
+	–		
CAN potential distributor electrical connector (Chassis)			
Terminal	Terminal		
CAN-H	CAN-L	When the harness connector just disconnected.	No change

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> GO TO 7.

7. CHECK SHORT CIRCUIT

Check the possible cause circuit for short to battery or ground.

Unit name	Circuit	Reference
Air bag diagnosis sensor unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the air bag diagnosis sensor unit	LAN-97, "Diagnosis Procedure"
CAN gateway	Circuit between the CAN potential distributor electrical connector (Chassis) and the CAN gateway	LAN-99, "Diagnosis Procedure"
Combination meter	Circuit between the CAN potential distributor electrical connector (Chassis) and the combination meter	LAN-101, "Diagnosis Procedure"
ECM	Circuit between the CAN potential distributor electrical connector (Chassis) and the ECM	LAN-103, "Diagnosis Procedure"
Electric parking brake control module	Circuit between the CAN potential distributor electrical connector (Chassis) and the electric parking brake control module	LAN-105, "Diagnosis Procedure"
Electronic ignition switch control unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the electronic ignition switch control unit	LAN-107, "Diagnosis Procedure"
Electronic stability program control unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the electronic stability program control unit	LAN-109, "Diagnosis Procedure"
EPS control unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the EPS control unit	LAN-111, "Diagnosis Procedure"
ICC sensor	Circuit between the CAN potential distributor electrical connector (Chassis) and the ICC sensor	LAN-113, "Diagnosis Procedure"
Low tire pressure warning control unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the low tire pressure warning control unit	LAN-115, "Diagnosis Procedure"
Sonar control unit	Circuit between the CAN potential distributor electrical connector (Chassis) and the sonar control unit	LAN-117, "Diagnosis Procedure"
Steering column control module	Circuit between the CAN potential distributor electrical connector (Chassis) and the steering column control module	LAN-119, "Diagnosis Procedure"

Is the inspection result normal?

YES >> Replace applicable ECU.
NO >> Repair or replace harness.

Component Inspection [CAN Potential Distributor Electrical Connector (Chassis)]

INFOID:0000000013768096

1. CHECK CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (CHASSIS)

Check resistance between CAN potential distributor electrical connector (chassis) CAN-H and CAN-L terminals.

Terminal		Resistance: Ω
CAN-H	CAN-L	50 – 65

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace CAN potential distributor electrical connector (chassis).

POWERTRAIN CAN COMMUNICATION

Diagnosis Procedure

INFOID:0000000013768097

1.ERROR ECU CONFIRMATION

Confirm whether there is error in one ECU or plural ECU on CAN diagnosis function with CONSULT.

Is error in one ECU or plural ECU?

One ECU>>GO TO 2.
Plural ECU>>GO TO 3.

2.CHECK ECU CIRCUIT

Check a circuit for applicable ECU. Refer to following.

Unit name	Circuit	Reference
AWD control unit	Circuit between the CAN potential distributor electrical connector (Powertrain) and the AWD control unit	LAN-75, "Diagnosis Procedure"
ECM	Circuit between the CAN potential distributor electrical connector (Powertrain) and the ECM	LAN-77, "Diagnosis Procedure"
Electric shift control unit	Circuit between the CAN potential distributor electrical connector (Powertrain) and the electric shift control unit	LAN-79, "Diagnosis Procedure"
Fuel pump control module	Circuit between the CAN potential distributor electrical connector (Powertrain) and the fuel pump control module	LAN-81, "Diagnosis Procedure"
TCM	Circuit between the CAN potential distributor electrical connector (Powertrain) and the TCM	LAN-83, "Diagnosis Procedure"

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace applicable parts.

3.CHECK CAN CIRCUIT VOLTAGE

1. Turn ignition switch ON.
2. Check voltage between CAN potential distributor electrical connector (powertrain) harness connector each terminals.

Terminals		Voltage (Approx.)
+	–	
CAN potential distributor electrical connector (powertrain)		
Terminal	Terminal	
CAN-H	Ground	2.5 – 2.7 V
CAN-L	Ground	2.1 – 2.4 V
CAN-H	CAN-L	0.2 – 0.4 V

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> GO TO 4.

4.CHECK HARNESS CONNECTOR CONDITION

1. Turn ignition switch OFF.
2. Check each harness connector connected to CAN potential distributor electrical connector for proper connection, locking, loose contact, damage, contamination and corrosion.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Securely connects or repair the harness connectors.

5.CHECK CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR

1. Turn ignition switch OFF.
2. Disconnect all of harness connector from CAN potential distributor electrical connector (Powertrain).
3. Check CAN potential distributor electrical connector (Powertrain). Refer to LAN-73, "Component Inspection [CAN Potential Distributor Electrical Connector (Powertrain)]".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace CAN potential distributor electrical connector (Powertrain).

6. POSSIBLE CAUSE CONFIRMATION

1. Turn ignition switch ON.
2. Check the voltage between CAN potential distributor electrical connector (Powertrain) terminals (CAN-H and CAN-L).
   NOTE:
   [Recommend] Check CAN potential distributor electrical connector (Powertrain) terminals that harness connector is not connected.
3. Disconnect each harness connector from CAN potential distributor electrical connector (Powertrain) one by one.
4. Check the voltage change when the harness connector just disconnected.

Terminals		Condition	Voltage (Approx.)
+	–		
CAN potential distributor electrical connector (powertrain)			
Terminal	Terminal		
CAN-H	CAN-L	When the harness connector just disconnected.	No change

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-56, "Intermittent Incident".
NO >> GO TO 7.

7. CHECK SHORT CIRCUIT

Check the possible cause circuit for short to battery or ground.

Unit name	Circuit	Reference
AWD control unit	Circuit between the CAN potential distributor electrical connector (Powertrain) and the AWD control unit	LAN-75, "Diagnosis Procedure"
ECM	Circuit between the CAN potential distributor electrical connector (Powertrain) and the ECM	LAN-77, "Diagnosis Procedure"
Electric shift control unit	Circuit between the CAN potential distributor electrical connector (Powertrain) and the electric shift control unit	LAN-79, "Diagnosis Procedure"
Fuel pump control module	Circuit between the CAN potential distributor electrical connector (Powertrain) and the fuel pump control module	LAN-81, "Diagnosis Procedure"
TCM	Circuit between the CAN potential distributor electrical connector (Powertrain) and the TCM	LAN-83, "Diagnosis Procedure"

Is the inspection result normal?

YES >> Replace applicable ECU.
NO >> Repair or replace harness.

Component Inspection [CAN Potential Distributor Electrical Connector (Powertrain)]

INFOID:0000000013768098

1. CHECK CAN POTENTIAL DISTRIBUTOR ELECTRICAL CONNECTOR (POWERTRAIN)

Check resistance between CAN potential distributor electrical connector (powertrain) CAN-H and CAN-L terminals.

Terminal		Resistance: Ω
CAN-H	CAN-L	50 – 65

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace CAN potential distributor electrical connector (powertrain).

CAN PDEC (POWERTRAIN) - 4WD CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768102

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (powertrain)
- AWD control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for AWD control unit. Refer to DLN-24, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (powertrain)
- AWD control unit
3. Check voltage between CAN potential distributor electrical connector (powertrain) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (powertrain)		Ground	
Connector	Terminal		
M175	4	—	0 V
	5		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (powertrain) harness connector and ground.

CAN potential distributor electrical connector (powertrain)		Ground	Continuity
Connector	Terminal		
M175	4	—	Not existed
	5		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (powertrain) harness connector terminals.

CAN potential distributor electrical connector (powertrain)				Continuity
Connector	Terminal	Connector	Terminal	
M175	4	M175	5	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (powertrain)
- AWD control unit

CAN potential distributor electrical connector (powertrain) – AWD control unit

CAN potential distributor electrical connector (power-train)		AWD control unit		Continuity
Connector	Terminal	Connector	Terminal	
M175	4	M48	3	Existed
	5		2	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (POWERTRAIN) - ECM CIRCUIT

Diagnosis Procedure

INFOID:0000000013768103

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (powertrain)
- ECM

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for ECM. Refer to EC-207, "ECM : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (powertrain)
- ECM
3. Check voltage between CAN potential distributor electrical connector (powertrain) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (powertrain)		Ground	
Connector	Terminal		
E98	8	—	0 V
	9		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (powertrain) harness connector and ground.

CAN potential distributor electrical connector (powertrain)		Ground	Continuity
Connector	Terminal		
E98	8	—	Not existed
	9		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (powertrain) harness connector terminals.

CAN potential distributor electrical connector (powertrain)				Continuity
Connector	Terminal	Connector	Terminal	
E98	8	E98	9	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (powertrain)
- ECM

CAN potential distributor electrical connector (powertrain) – ECM

CAN potential distributor electrical connector (power-train)		ECM		Continuity
Connector	Terminal	Connector	Terminal	
E98	8	E48	138	Existed
	9		151	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (POWERTRAIN) - ELECTRIC SHIFT CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768104

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (powertrain)
- Electric shift control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for electric shift control unit. Refer to PCS-13, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (powertrain)
- Electric shift control unit
3. Check voltage between CAN potential distributor electrical connector (powertrain) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (powertrain)		Ground	
Connector	Terminal		
M326	6	—	0 V
	7		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (powertrain) harness connector and ground.

CAN potential distributor electrical connector (powertrain)		Ground	Continuity
Connector	Terminal		
M326	6	—	Not existed
	7		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (powertrain) harness connector terminals.

CAN potential distributor electrical connector (powertrain)				Continuity
Connector	Terminal	Connector	Terminal	
M326	6	M326	7	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (powertrain)
- Electric shift control unit

CAN potential distributor electrical connector (powertrain) – Electric shift control unit

CAN potential distributor electrical connector (power-train)		Electric shift control unit		Continuity
Connector	Terminal	Connector	Terminal	
M326	6	M58	3	Existed
	7		4	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (POWERTRAIN) - FUEL PUMP CONTROL MODULE CIRCUIT

Diagnosis Procedure

INFOID:0000000013768105

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (powertrain)
- Fuel pump control module

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for fuel pump control module. Refer to EC-208, "FUEL PUMP CONTROL MODULE (FPCM) : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (powertrain)
- Fuel pump control module
3. Check voltage between CAN potential distributor electrical connector (powertrain) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (powertrain)		Ground	
Connector	Terminal		
M176	1	—	0 V
	2		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (powertrain) harness connector and ground.

CAN potential distributor electrical connector (powertrain)		Ground	Continuity
Connector	Terminal		
M176	1	—	Not existed
	2		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (powertrain) harness connector terminals.

CAN potential distributor electrical connector (powertrain)				Continuity
Connector	Terminal	Connector	Terminal	
M176	1	M176	2	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (powertrain)
- Fuel pump control module

CAN potential distributor electrical connector (powertrain) – Fuel pump control module (For 2WD models)

CAN potential distributor electrical connector (powertrain)		Fuel pump control module		Continuity
Connector	Terminal	Connector	Terminal	
M176	1	M135	3	Existed
	2		4	

CAN potential distributor electrical connector (powertrain) – Fuel pump control module (For AWD models)

CAN potential distributor electrical connector (powertrain)		Fuel pump control module		Continuity
Connector	Terminal	Connector	Terminal	
M176	1	M136	10	Existed
	2		9	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (POWERTRAIN) - TCM CIRCUIT

Diagnosis Procedure

INFOID:0000000013768107

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (powertrain)
- TCM

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for TCM. Refer to TM-53, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (powertrain)
- TCM
3. Check voltage between CAN potential distributor electrical connector (powertrain) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (powertrain)		Ground	
Connector	Terminal		
E147	10	—	0 V
	11		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (powertrain) harness connector and ground.

CAN potential distributor electrical connector (powertrain)		Ground	Continuity
Connector	Terminal		
E147	10	—	Not existed
	11		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (powertrain) harness connector terminals.

CAN potential distributor electrical connector (powertrain)				Continuity
Connector	Terminal	Connector	Terminal	
E147	10	E147	11	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (powertrain)
- TCM

CAN potential distributor electrical connector (powertrain) – TCM

CAN potential distributor electrical connector (power-train)		TCM		Continuity
Connector	Terminal	Connector	Terminal	
E147	10	E47	3	Existed
	11		1	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (FRONT END) - ELECTRONIC IGNITION SWITCH CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768110

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (front end)
- Electronic ignition switch control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for electronic ignition switch control unit. Refer to PCS-13, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (front end)
- Electronic ignition switch control unit
3. Check voltage between CAN potential distributor electrical connector (front end) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (front end)		Ground	
Connector	Terminal		
M142	1	—	0 V
	2		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (front end) harness connector and ground.

CAN potential distributor electrical connector (front end)		Ground	Continuity
Connector	Terminal		
M142	1	—	Not existed
	2		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (front end) harness connector terminals.

CAN potential distributor electrical connector (front end)				Continuity
Connector	Terminal	Connector	Terminal	
M142	1	M142	2	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6.CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (front end)
- Electronic ignition switch control unit

CAN potential distributor electrical connector (front end) – Electronic ignition switch control unit

CAN potential distributor electrical connector (front end)		Electronic ignition switch control unit		Continuity
Connector	Terminal	Connector	Terminal	
M142	1	M101	6	Existed
	2		12	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (FRONT END) - FRONT CAMERA UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768111

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (front end)
- Front camera unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for front camera unit. Refer to DAS-173, "FRONT CAMERA UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (front end)
- Front camera unit
3. Check voltage between CAN potential distributor electrical connector (front end) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (front end)		Ground	
Connector	Terminal		
M141	4	—	0 V
	5		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (front end) harness connector and ground.

CAN potential distributor electrical connector (front end)		Ground	Continuity
Connector	Terminal		
M141	4	—	Not existed
	5		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (front end) harness connector terminals.

CAN potential distributor electrical connector (front end)				Continuity
Connector	Terminal	Connector	Terminal	
M141	4	M141	5	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (front end)
- Front camera unit

CAN potential distributor electrical connector (front end) – Front camera unit

CAN potential distributor electrical connector (front end)		Front camera unit		Continuity
Connector	Terminal	Connector	Terminal	
M141	4	M162	3	Existed
	5		2	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (FRONT END) - FRONT COMBINATION LAMP LH CIRCUIT

Diagnosis Procedure

INFOID:0000000013768112

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (front end)
- Front combination lamp LH

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for front combination lamp LH. Refer to EXL-100, "Wiring Diagram" (LED headlamp) or EXL-372, "Wiring Diagram" (Halogen headlamp).

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (front end)
- Front combination lamp LH
3. Check voltage between CAN potential distributor electrical connector (front end) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (front end)		Ground	
Connector	Terminal		
E143	10	—	0 V
	11		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (front end) harness connector and ground.

CAN potential distributor electrical connector (front end)		Ground	Continuity
Connector	Terminal		
E143	10	—	Not existed
	11		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (front end) harness connector terminals.

CAN potential distributor electrical connector (front end)				Continuity
Connector	Terminal	Connector	Terminal	
E143	10	E143	11	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (front end)
- Front combination lamp LH

CAN potential distributor electrical connector (front end) – Front combination lamp LH (For halogen headlamp models)

CAN potential distributor electrical connector (front end)		Front combination lamp LH		Continuity
Connector	Terminal	Connector	Terminal	
E143	10	E80	14	Existed
	11		13	

CAN potential distributor electrical connector (front end) – Front combination lamp LH (For LED headlamp models)

CAN potential distributor electrical connector (front end)		Front combination lamp LH		Continuity
Connector	Terminal	Connector	Terminal	
E143	10	E115	1	Existed
	11		2	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (FRONT END) - FRONT COMBINATION LAMP RH CIRCUIT

Diagnosis Procedure

INFOID:0000000013768113

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (front end)
- Front combination lamp RH

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for front combination lamp RH. Refer to EXL-100, "Wiring Diagram" (LED headlamp) or EXL-372, "Wiring Diagram" (Halogen headlamp).

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (front end)
- Front combination lamp RH
3. Check voltage between CAN potential distributor electrical connector (front end) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (front end)		Ground	
Connector	Terminal		
E89	8	—	0 V
	9		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (front end) harness connector and ground.

CAN potential distributor electrical connector (front end)		Ground	Continuity
Connector	Terminal		
E89	8	—	Not existed
	9		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (front end) harness connector terminals.

CAN potential distributor electrical connector (front end)				Continuity
Connector	Terminal	Connector	Terminal	
E89	8	E89	9	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (front end)
- Front combination lamp RH

CAN potential distributor electrical connector (front end) – Front combination lamp RH (For halogen headlamp models)

CAN potential distributor electrical connector (front end)		Front combination lamp RH		Continuity
Connector	Terminal	Connector	Terminal	
E89	8	E82	14	Existed
	9		13	

CAN potential distributor electrical connector (front end) – Front combination lamp RH (For LED headlamp models)

CAN potential distributor electrical connector (front end)		Front combination lamp RH		Continuity
Connector	Terminal	Connector	Terminal	
E89	8	E116	1	Existed
	9		2	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (FRONT END) - SIDE RADAR LH CIRCUIT

Diagnosis Procedure

INFOID:0000000013768114

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (front end)
- Harness connector M49
- Harness connector M253
- Side radar LH

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for side radar LH. Refer to DAS-173, "SIDE RADAR LH : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (front end)
- Side radar LH
3. Check voltage between CAN potential distributor electrical connector (front end) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (front end)		Ground	
Connector	Terminal		
M291	6	—	0 V
	7		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (front end) harness connector and ground.

CAN potential distributor electrical connector (front end)		Ground	Continuity
Connector	Terminal		
M291	6	—	Not existed
	7		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (front end) harness connector terminals.

CAN potential distributor electrical connector (front end)				Continuity
Connector	Terminal	Connector	Terminal	
M291	6	M291	7	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6.CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (front end)
- Side radar LH

CAN potential distributor electrical connector (front end) – Side radar LH

CAN potential distributor electrical connector (front end)		Side radar LH		Continuity
Connector	Terminal	Connector	Terminal	
M291	6	M251	2	Existed
	7		3	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (FRONT END) - SIDE RADAR RH CIRCUIT

Diagnosis Procedure

INFOID:0000000013768115

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (front end)
- Harness connector M49
- Harness connector M253
- Side radar RH

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for side radar RH. Refer to DAS-174, "SIDE RADAR RH : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (front end)
- Side radar RH
3. Check voltage between CAN potential distributor electrical connector (front end) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (front end)		Ground	
Connector	Terminal		
M291	6	—	0 V
	7		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (front end) harness connector and ground.

CAN potential distributor electrical connector (front end)		Ground	Continuity
Connector	Terminal		
M291	6	—	Not existed
	7		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (front end) harness connector terminals.

CAN potential distributor electrical connector (front end)				Continuity
Connector	Terminal	Connector	Terminal	
M291	6	M291	7	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6.CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (front end)
- Side radar RH

CAN potential distributor electrical connector (front end) – Side radar RH

CAN potential distributor electrical connector (front end)		Side radar RH		Continuity
Connector	Terminal	Connector	Terminal	
M291	6	M252	2	Existed
	7		3	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - AIR BAG DIAGNOSIS SENSOR UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768116

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- Air bag diagnosis sensor unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for air bag diagnosis sensor unit. Refer to SRC-141, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- Air bag diagnosis sensor unit
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
M293	8	—	0 V
	9		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
M293	8	—	Not existed
	9		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
M293	8	M293	9	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK WIRING HARNESS

Check the wiring harness externals [Between CAN potential distributor electrical connector (chassis) and air bag diagnosis sensor unit].

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - CAN GATEWAY CIRCUIT

Diagnosis Procedure

INFOID:0000000013768117

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- CAN gateway

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for CAN gateway. Refer to LAN-217, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- CAN gateway
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
M30	4	—	0 V
	5		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
M30	4	—	Not existed
	5		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
M30	4	M30	5	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (chassis)
- CAN gateway

CAN potential distributor electrical connector (chassis) – CAN gateway

CAN potential distributor electrical connector (chassis)		CAN gateway		Continuity
Connector	Terminal	Connector	Terminal	
M30	4	M218	17	Existed
	5		16	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - COMBINATION METER CIRCUIT

Diagnosis Procedure

INFOID:0000000013768118

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- Combination meter

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for combination meter. Refer to MWI-154, "COMBINATION METER : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- Combination meter
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
M31	1	—	0 V
	2		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
M31	1	—	Not existed
	2		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
M31	1	M31	2	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (chassis)
- Combination meter

CAN potential distributor electrical connector (chassis) – Combination meter

CAN potential distributor electrical connector (chassis)		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M31	1	M32	13	Existed
	2		12	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - ECM CIRCUIT

Diagnosis Procedure

INFOID:0000000013768120

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- ECM

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for ECM. Refer to EC-207, "ECM : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- ECM
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
E17	18	—	0 V
	19		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
E17	18	—	Not existed
	19		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
E17	18	E17	19	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (chassis)
- ECM

CAN potential distributor electrical connector (chassis) – ECM

CAN potential distributor electrical connector (chassis)		ECM		Continuity
Connector	Terminal	Connector	Terminal	
E17	18	E48	137	Existed
	19		150	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - ELECTRIC PARKING BRAKE CONTROL MODULE CIRCUIT

Diagnosis Procedure

INFOID:0000000013768121

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- Electric parking brake control module

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for electric parking brake control module. Refer to PB-128, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- Electric parking brake control module
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
M294	10	—	0 V
	11		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
M294	10	—	Not existed
	11		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
M294	10	M294	11	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6.CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (chassis)
- Electric parking brake control module

CAN potential distributor electrical connector (chassis) – Electric parking brake control module

CAN potential distributor electrical connector (chassis)		Electric parking brake control module		Continuity
Connector	Terminal	Connector	Terminal	
M294	10	M70	16	Existed
	11		17	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - ELECTRONIC IGNITION SWITCH CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768122

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- Electronic ignition switch control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for electronic ignition switch control unit. Refer to PCS-13, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- Electronic ignition switch control unit
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
M292	6	—	0 V
	7		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
M292	6	—	Not existed
	7		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
M292	6	M292	7	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6.CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (chassis)
- Electronic ignition switch control unit

CAN potential distributor electrical connector (chassis) – Electronic ignition switch control unit

CAN potential distributor electrical connector (chassis)		Electronic ignition switch control unit		Continuity
Connector	Terminal	Connector	Terminal	
M292	6	M101	2	Existed
	7		1	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - ELECTRONIC STABILITY PROGRAM CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768123

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- Electronic stability program control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for electronic stability program control unit. Refer to BRC-965, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- Electronic stability program control unit
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
E146	24	—	0 V
	25		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
E146	24	—	Not existed
	25		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
E146	24	E146	25	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6.CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (chassis)
- Electronic stability program control unit

CAN potential distributor electrical connector (chassis) – Electronic stability program control unit

CAN potential distributor electrical connector (chassis)		Electronic stability program control unit		Continuity
Connector	Terminal	Connector	Terminal	
E146	24	E46	26	Existed
	25		14	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - EPS CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768124

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- EPS control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for EPS control unit. Refer to STC-56, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- EPS control unit
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
E145	22	—	0 V
	23		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
E145	22	—	Not existed
	23		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
E145	22	E145	23	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (chassis)
- EPS control unit

CAN potential distributor electrical connector (chassis) – EPS control unit

CAN potential distributor electrical connector (chassis)		EPS control unit		Continuity
Connector	Terminal	Connector	Terminal	
E145	22	E44	1	Existed
	23		2	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - ICC SENSOR CIRCUIT

Diagnosis Procedure

INFOID:0000000013768125

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- ICC sensor

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for ICC sensor. Refer to CCS-339, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- ICC sensor
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
E144	20	—	0 V
	21		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
E144	20	—	Not existed
	21		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
E144	20	E144	21	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (chassis)
- ICC sensor

CAN potential distributor electrical connector (chassis) – ICC sensor

CAN potential distributor electrical connector (chassis)		ICC sensor		Continuity
Connector	Terminal	Connector	Terminal	
E144	20	E29	2	Existed
	21		3	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - LOW TIRE PRESSURE WARNING CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768126

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- Low tire pressure warning control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for low tire pressure warning control unit. Refer to WT-64, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- Low tire pressure warning control unit
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
M296	14	—	0 V
	15		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
M296	14	—	Not existed
	15		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
M296	14	M296	15	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6.CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (chassis)
- Low tire pressure warning control unit

CAN potential distributor electrical connector (chassis) – Low tire pressure warning control unit

CAN potential distributor electrical connector (chassis)		Low tire pressure warning control unit		Continuity
Connector	Terminal	Connector	Terminal	
M296	14	M44	3	Existed
	15		4	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - SONAR CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768128

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- Sonar control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for sonar control unit. Refer to SN-42, "Wiring Diagram" (Front 6 & rear 4 sensors) or SN-50, "Wiring Diagram" (Front 6 & rear 6 sensors with park assist).

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- Sonar control unit
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
M295	12	—	0 V
	13		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
M295	12	—	Not existed
	13		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
M295	12	M295	13	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (chassis)
- Sonar control unit

CAN potential distributor electrical connector (chassis) – Sonar control unit

CAN potential distributor electrical connector (chassis)		Sonar control unit		Continuity
Connector	Terminal	Connector	Terminal	
M295	12	M4	25	Existed
	13		24	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (CHASSIS) - STEERING COLUMN CONTROL MODULE CIRCUIT

Diagnosis Procedure

INFOID:0000000013768129

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (chassis)
- Steering column control module

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for steering column control module. Refer to BCS-85, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (chassis)
- Steering column control module
3. Check voltage between CAN potential distributor electrical connector (chassis) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (chassis)		Ground	
Connector	Terminal		
M297	16	—	0 V
	17		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector and ground.

CAN potential distributor electrical connector (chassis)		Ground	Continuity
Connector	Terminal		
M297	16	—	Not existed
	17		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5. CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (chassis) harness connector terminals.

CAN potential distributor electrical connector (chassis)				Continuity
Connector	Terminal	Connector	Terminal	
M297	16	M297	17	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (chassis)
- Steering column control module

CAN potential distributor electrical connector (chassis) – Steering column control module

CAN potential distributor electrical connector (chassis)		Steering column control module		Continuity
Connector	Terminal	Connector	Terminal	
M297	16	M3	2	Existed
	17		1	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (BODY) - A/C AUTO AMP. CIRCUIT

Diagnosis Procedure

INFOID:0000000013768131

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (body)
- A/C auto amp.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for A/C auto amp. Refer to HAC-120, "A/C AUTO AMP. : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (body)
- A/C auto amp.
3. Check voltage between CAN potential distributor electrical connector (body) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (body)		Ground	
Connector	Terminal		
M298	6	—	0 V
	7		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (body) harness connector and ground.

CAN potential distributor electrical connector (body)		Ground	Continuity
Connector	Terminal		
M298	6	—	Not existed
	7		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (body) harness connector terminals.

CAN potential distributor electrical connector (body)				Continuity
Connector	Terminal	Connector	Terminal	
M298	6	M298	7	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (body)
- A/C auto amp.

CAN potential distributor electrical connector (body) – A/C auto amp.

CAN potential distributor electrical connector (body)		A/C auto amp.		Continuity
Connector	Terminal	Connector	Terminal	
M298	6	M36	5	Existed
	7		4	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (BODY) - BCM (BODY CONTROL MODULE) CIRCUIT

Diagnosis Procedure

INFOID:0000000013768132

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (body)
- BCM

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for BCM. Refer to BCS-63, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (body)
- BCM
3. Check voltage between CAN potential distributor electrical connector (body) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (body)		Ground	
Connector	Terminal		
M300	10	—	0 V
	11		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (body) harness connector and ground.

CAN potential distributor electrical connector (body)		Ground	Continuity
Connector	Terminal		
M300	10	—	Not existed
	11		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (body) harness connector terminals.

CAN potential distributor electrical connector (body)				Continuity
Connector	Terminal	Connector	Terminal	
M300	10	M300	11	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (body)
- BCM

CAN potential distributor electrical connector (body) – BCM

CAN potential distributor electrical connector (body)		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M300	10	M28	113	Existed
	11		112	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (BODY) - CAN GATEWAY CIRCUIT

Diagnosis Procedure

INFOID:0000000013768133

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (body)
- CAN gateway

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for CAN gateway. Refer to LAN-217, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (body)
- CAN gateway
3. Check voltage between CAN potential distributor electrical connector (body) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (body)		Ground	
Connector	Terminal		
M18	4	—	0 V
	5		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (body) harness connector and ground.

CAN potential distributor electrical connector (body)		Ground	Continuity
Connector	Terminal		
M18	4	—	Not existed
	5		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (body) harness connector terminals.

CAN potential distributor electrical connector (body)				Continuity
Connector	Terminal	Connector	Terminal	
M18	4	M18	5	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (body)
- CAN gateway

CAN potential distributor electrical connector (body) – CAN gateway

CAN potential distributor electrical connector (body)		CAN gateway		Continuity
Connector	Terminal	Connector	Terminal	
M18	4	M218	22	Existed
	5		21	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (BODY) - COMBINATION METER CIRCUIT

Diagnosis Procedure

INFOID:0000000013768134

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (body)
- Combination meter

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for combination meter. Refer to MWI-154, "COMBINATION METER : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (body)
- Combination meter
3. Check voltage between CAN potential distributor electrical connector (body) harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN potential distributor electrical connector (body)		Ground	
Connector	Terminal		
M19	1	—	0 V
	2		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (body) harness connector and ground.

CAN potential distributor electrical connector (body)		Ground	Continuity
Connector	Terminal		
M19	1	—	Not existed
	2		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (body) harness connector terminals.

CAN potential distributor electrical connector (body)				Continuity
Connector	Terminal	Connector	Terminal	
M19	1	M19	2	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (body)
- Combination meter

CAN potential distributor electrical connector (body) – Combination meter

CAN potential distributor electrical connector (body)		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M19	1	M32	18	Existed
	2		17	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (BODY) - DRIVER SEAT CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768135

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (body)
- Harness connector M225
- Harness connector M614
- Driver seat control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for driver seat control unit. Refer to ADP-34, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (body)
- Driver seat control unit
3. Check voltage between CAN potential distributor electrical connector (body) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (body)		Ground	
Connector	Terminal		
M321	14	—	0 V
	15		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (body) harness connector and ground.

CAN potential distributor electrical connector (body)		Ground	Continuity
Connector	Terminal		
M321	14	—	Not existed
	15		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (body) harness connector terminals.

CAN potential distributor electrical connector (body)				Continuity
Connector	Terminal	Connector	Terminal	
M321	14	M321	15	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (body)
- Driver seat control unit

CAN potential distributor electrical connector (body) – Driver seat control unit

CAN potential distributor electrical connector (body)		Driver seat control unit		Continuity
Connector	Terminal	Connector	Terminal	
M321	14	M615	29	Existed
	15		30	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (BODY) - ELECTRONIC IGNITION SWITCH CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768136

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (body)
- Electronic ignition switch control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for electronic ignition switch control unit. Refer to PCS-13, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (body)
- Electronic ignition switch control unit
3. Check voltage between CAN potential distributor electrical connector (body) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (body)		Ground	
Connector	Terminal		
M324	20	—	0 V
	21		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (body) harness connector and ground.

CAN potential distributor electrical connector (body)		Ground	Continuity
Connector	Terminal		
M324	20	—	Not existed
	21		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (body) harness connector terminals.

CAN potential distributor electrical connector (body)				Continuity
Connector	Terminal	Connector	Terminal	
M324	20	M324	21	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (body)
- Electronic ignition switch control unit

CAN potential distributor electrical connector (body) – Electronic ignition switch control unit

CAN potential distributor electrical connector (body)		Electronic ignition switch control unit		Continuity
Connector	Terminal	Connector	Terminal	
M324	20	M101	3	Existed
	21		4	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (BODY) - INTELLIGENT KEY UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768137

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (body)
- Intelligent Key unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for Intelligent Key unit. Refer to DLK-73, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (body)
- Intelligent Key unit
3. Check voltage between CAN potential distributor electrical connector (body) harness connector and ground.

Terminals			Voltage (Approx.)
+		–	
CAN potential distributor electrical connector (body)		Ground	
Connector	Terminal		
M325	22	—	0 V
	23		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (body) harness connector and ground.

CAN potential distributor electrical connector (body)		Ground	Continuity
Connector	Terminal		
M325	22	—	Not existed
	23		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (body) harness connector terminals.

CAN potential distributor electrical connector (body)				Continuity
Connector	Terminal	Connector	Terminal	
M325	22	M325	23	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (body)
- Intelligent Key unit

CAN potential distributor electrical connector (body) – Intelligent Key unit

CAN potential distributor electrical connector (body)		Intelligent Key unit		Continuity
Connector	Terminal	Connector	Terminal	
M325	22	M149	17	Existed
	23		3	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (BODY) - PASSENGER SEAT CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768139

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (body)
- Harness connector M134
- Harness connector M617
- Passenger seat control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for passenger seat control unit. Refer to ADP-34, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (body)
- Passenger seat control unit
3. Check voltage between CAN potential distributor electrical connector (body) harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN potential distributor electrical connector (body)		Ground	
Connector	Terminal		
M322	16	—	0 V
	17		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (body) harness connector and ground.

CAN potential distributor electrical connector (body)		Ground	Continuity
Connector	Terminal		
M322	16	—	Not existed
	17		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (body) harness connector terminals.

CAN potential distributor electrical connector (body)				Continuity
Connector	Terminal	Connector	Terminal	
M322	16	M322	17	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (body)
- Passenger seat control unit

CAN potential distributor electrical connector (body) – Passenger seat control unit

CAN potential distributor electrical connector (body)		Passenger seat control unit		Continuity
Connector	Terminal	Connector	Terminal	
M322	16	M618	29	Existed
	17		30	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

CAN PDEC (BODY) - RIGHT FRONT DOOR CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768140

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN potential distributor electrical connector (body)
- Harness connector M61
- Harness connector D82
- Right front door control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for right front door control unit. Refer to DLK-94, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN potential distributor electrical connector (body)
- Right front door control unit
3. Check voltage between CAN potential distributor electrical connector (body) harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN potential distributor electrical connector (body)		Ground	
Connector	Terminal		
M323	18	—	0 V
	19		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between CAN potential distributor electrical connector (body) harness connector and ground.

CAN potential distributor electrical connector (body)		Ground	Continuity
Connector	Terminal		
M323	18	—	Not existed
	19		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between CAN potential distributor electrical connector (body) harness connector terminals.

CAN potential distributor electrical connector (body)				Continuity
Connector	Terminal	Connector	Terminal	
M323	18	M323	19	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- CAN potential distributor electrical connector (body)
- Right front door control unit

CAN potential distributor electrical connector (body) – Right front door control unit

CAN potential distributor electrical connector (body)		Right front door control unit		Continuity
Connector	Terminal	Connector	Terminal	
M323	18	D55	22	Existed
	19		21	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

DATA LINK CONNECTOR - ELECTRONIC IGNITION SWITCH CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768143

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- Electronic ignition switch control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for electronic ignition switch control unit. Refer to PCS-13, "Wiring Diagram".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- Electronic ignition switch control unit
3. Check voltage between data link connector and ground.

Terminals			Voltage (Approx.)
+		−	
Data link connector		Ground	
Connector	Terminal		
M43	6	—	0 V
	14		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between data link connector and ground.

Data link connector		Ground	Continuity
Connector	Terminal		
M43	6	—	Not existed
	14		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between data link connector terminals.

Data link connector				Continuity
Connector	Terminal	Connector	Terminal	
M43	6	M43	14	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- Data link connector
- Electronic ignition switch control unit

Data link connector – Electronic ignition switch control unit

Data link connector		Electronic ignition switch control unit		Continuity
Connector	Terminal	Connector	Terminal	
M43	6	M101	10	Existed
	14		9	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

DATA LINK CONNECTOR - CAN GATEWAY CIRCUIT

Diagnosis Procedure

INFOID:0000000013768144

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- CAN gateway

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for CAN gateway. Refer to LAN-217, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.

- CAN gateway

3. Check voltage between data link connector and ground.

Terminals			Voltage (Approx.)
+		−	
Data link connector		Ground	
Connector	Terminal		
M43	13	—	0 V
	12		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between data link connector and ground.

Data link connector		Ground	Continuity
Connector	Terminal		
M43	13	—	Not existed
	12		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between data link connector terminals.

Data link connector				Continuity
Connector	Terminal	Connector	Terminal	
M43	13	M43	12	Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- Data link connector
- CAN gateway

Data link connector – CAN gateway

Data link connector		CAN gateway		Continuity
Connector	Terminal	Connector	Terminal	
M43	13	M218	24	Existed
	12		23	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

BCM - LEFT FRONT DOOR CONTROL UNIT CIRCUIT

Diagnosis Procedure

INFOID:0000000013768145

1.CHECK HARNESS CONNECTOR CONNECTION

Check the following harness connector for disconnection or looseness.
- BCM
- Harness connector M59
- Harness connector D32
- Left front door control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for the following unit.
- BCM: BCS-63, "Wiring Diagram"
- Left front door control unit: DLK-88, "Wiring Diagram"

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- BCM
- Left front door control unit
3. Check voltage between BCM harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
BCM		Ground	
Connector	Terminal		
M25	8	—	0 V
	9		

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK CIRCUIT (SHORT TO GROUND)

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M25	8	—	Not existed
	9		

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

5.CHECK CIRCUIT (SHORT WITH CAN-H AND CAN-L)

Check continuity between BCM harness connector terminals.

BCM				Continuity
Connector	Terminal	Connector	Terminal	
M25	8	M25	9	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK CIRCUIT (OPEN)

Check continuity between the following unit harness connectors.
- BCM
- Left front door control unit

BCM – Left front door control unit

BCM		Left front door control unit		Continuity
Connector	Terminal	Connector	Terminal	
M25	8	D12	22	Existed
	9		21	

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

AV BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013768149

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).

- Display control unit
- CAN gateway

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector				Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M218	20	M217	9	Existed
	19		3	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check the harness and repair the root cause (Multifunction media CAN communication circuit).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of display control unit.
3. Check the resistance between the display control unit harness connector terminals.

Display control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M52	59	47	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.
NO >> Repair the display control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the display control unit. Refer to AV-202, "DISPLAY CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the display control unit. Refer to AV-239, "Removal and Installation".
YES (Past error)>>Error was detected in the display control unit branch line.
NO >> Repair the power supply and the ground circuit.

AVM BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013768150

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).

- Around view monitor control unit
- CAN gateway

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector				Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M218	20	M217	9	Existed
	19		3	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check the harness and repair the root cause (Multifunction media CAN communication circuit).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of around view monitor control unit.
3. Check the resistance between the around view monitor control unit harness connector terminals.

Around view monitor control unit harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M8	26	24	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.
NO >> Repair the around view monitor control unit branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the around view monitor control unit. Refer to AV-342, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the around view monitor control unit. Refer to AV-347, "Removal and Installation".
YES (Past error)>>Error was detected in the around view monitor control unit branch line.
NO >> Repair the power supply and the ground circuit.

TCU BRANCH LINE CIRCUIT

Diagnosis Procedure

INFOID:0000000013781437

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect the battery cable from the negative terminal.
3. Check the following terminals and connectors for damage, bend and loose connection (unit side and connector side).

- TCU
- CAN gateway

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminal and connector.

2.CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect the connector of CAN gateway.
2. Check the continuity between the CAN gateway harness connector terminals.

CAN gateway harness connector				Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
M218	20	M217	9	Existed
	19		3	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check the harness and repair the root cause (Multifunction media CAN communication circuit).

3.CHECK HARNESS FOR OPEN CIRCUIT

1. Connect the connector of CAN gateway.
2. Disconnect the connector of TCU.
3. Check the resistance between the TCU harness connector terminals.

TCU harness connector			Resistance (Ω)
Connector No.	Terminal No.		
M215	6	7	Approx. 54 – 66

Is the measurement value within the specification?

YES >> GO TO 4.
NO >> Repair the TCU branch line.

4.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check the power supply and the ground circuit of the TCU. Refer to AV-455, "TCU : Diagnosis Procedure".

Is the inspection result normal?

YES (Present error)>>Replace the TCU. Refer to AV-459, "Removal and Installation".
YES (Past error)>>Error was detected in the TCU branch line.
NO >> Repair the power supply and the ground circuit.

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000013779996

Risk of injury

There is a risk of injury caused by parts becoming projectiles if uncontrolled deployment of air bag or seat belt pre-tensioner occurs, or by storing air bag with the deployment side facing downwards. When scrapping air bag or seat belt pre-tensioner by means of controlled deployment, there is also a danger present if a sufficiently safe distance is not maintained, or if opening using cutting torches or other cutting tools, or due to smelting or if parts that are not yet triggered are exposed to a blaze or a smoldering fire at landfills.

Safety instructions/precautions

- Removed air bag must always be stored with deployment side facing up.
- Acquisition, transportation, storage, testing and assembly work should only be performed or supervised by properly trained personnel.
- Install air bag or seat belt pre-tensioner immediately following retrieval from storage.
- Air bag and seat belt pre-tensioner must be protected from flying sparks, open fires and temperature exceeding 100°C (212°F).
- Never transport air bag and seat belt pre-tensioner in the passenger compartment. Store them securely in the luggage room of the vehicle in their original replacement part packaging and secure them so that they cannot slip around.
- Never allow air bag and seat belt pre-tensioner to come into contact with grease, oil, or cleaning agents.
- Perform system tests using approved testing equipment only, and only when the units are properly installed and the vehicle is unoccupied.
- Before the initial hookup of the battery or an external power supply, the ignition must be switched on and the vehicle unoccupied.
- Air bag and seat belt pre-tensioner that fall from a height of more than 0.5 m must be replaced.
- When scrapping by means of controlled deployment of air bag and seat belt pre-tensioner, a safe distance of at least 10 m must be maintained.
- Before starting work on air bag and seat belt pre-tensioner and work on components that are connected to air bag and seat belt pre-tensioner or require and intervention in their electric circuit (e.g. when removing the steering wheel):
- Disconnect any external power sources (e.g. charger).
- Disconnect and insulate ground line of battery
- Before starting bodywork in combination with welding or retrofitting, during which work is performed on uninsulated, current-carrying lines or require an intervention in their electric circuit (e.g. when removing the steering wheel):
- Disconnect any external power sources (e.g. charger).
- Disconnect and insulate ground line of battery.
- During welding, disconnect plug connection and from control unit of air bag.
- When the air bag deploys, the pyrofuse activates and the power source from the battery is disconnected. This prevents possible fires caused by electric leakage after an accident occurs.

Precautions for Removing Battery Terminal

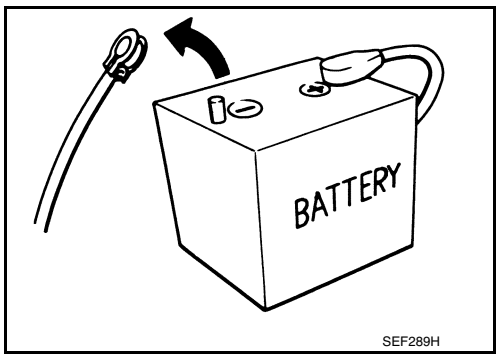
INFOID:0000000013779997

When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:

BR08DE	: 4 minutes	YD25DDTi	: 2 minutes
D4D engine	: 20 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		
V9X engine	: 4 minutes		



NOTE:
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

NOTE:
- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
  - Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
  - Driving for 30 minutes or more on a steep slope.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

NOTE:
If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

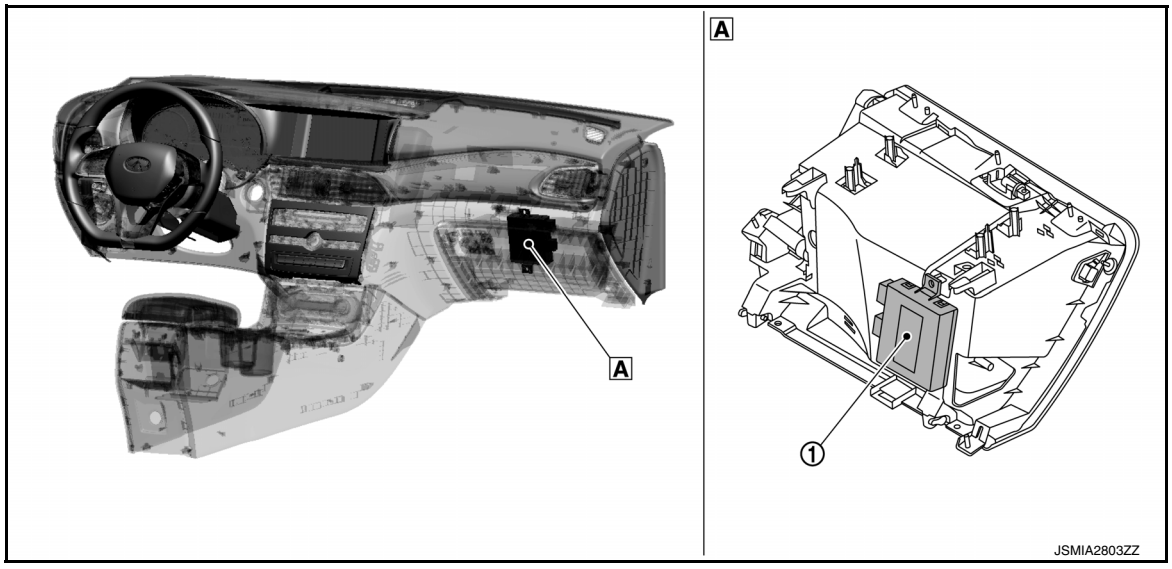
NOTE:
The removal of 12V battery may cause a DTC detection error.

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000013768153

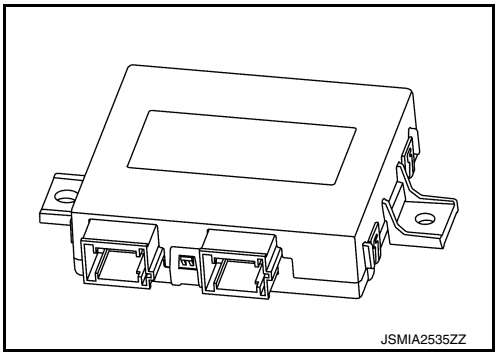


1. CAN gateway
A. Behind of the glove box

CAN Gateway

INFOID:0000000013768154

- CAN gateway is installed behind of the glove box.
- CAN gateway communicates each signal between some CAN communication circuits.
- CAN gateway receives each signal via CAN communication. And it converts the signal to voltage and outputs it.



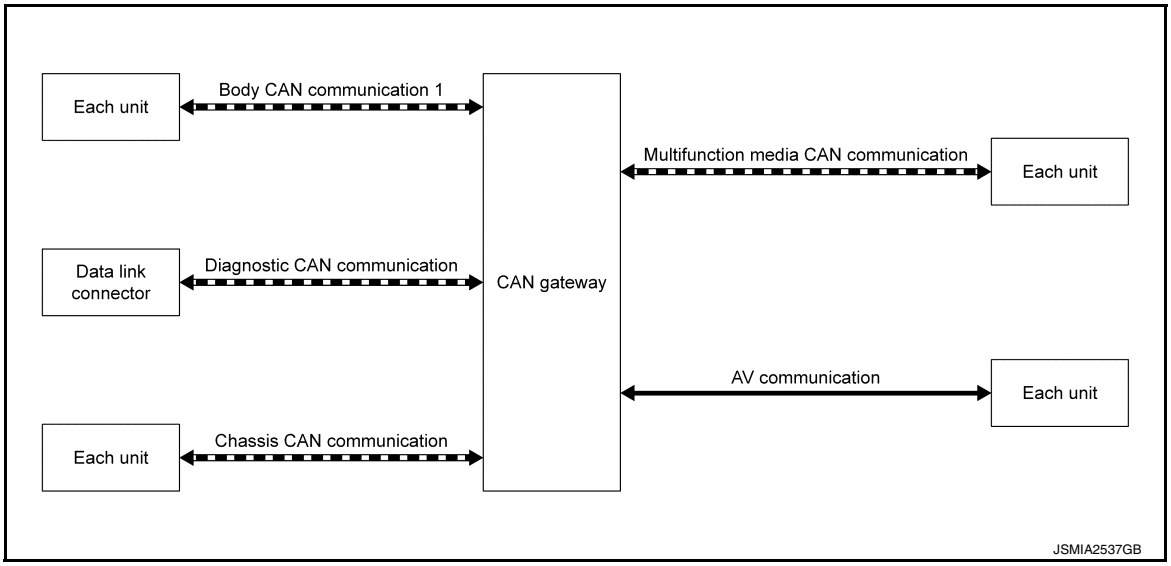
SYSTEM

CAN COMMUNICATION SYSTEM

CAN COMMUNICATION SYSTEM : System Description

INFOID:0000000013768155

SYSTEM DIAGRAM



OUTLINE

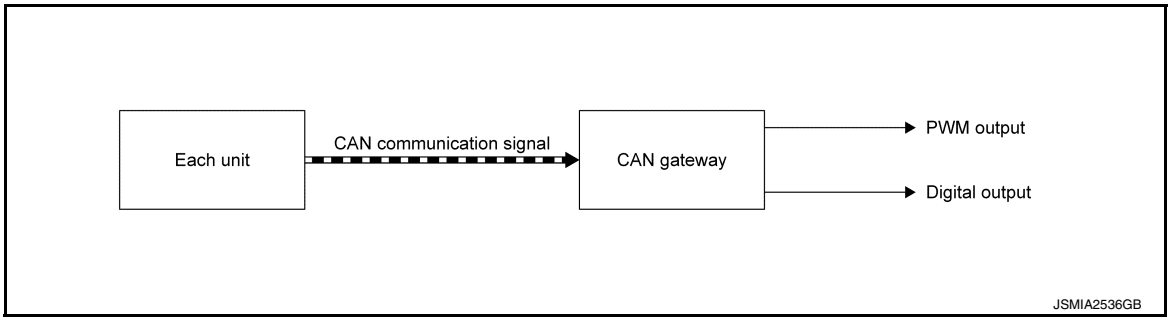
- The CAN gateway system communicates each signal between some CAN communication circuits.
- This system selects and transmits only necessary information.

SIGNAL BUFFER SYSTEM

SIGNAL BUFFER SYSTEM : System Description

INFOID:0000000013768156

SYSTEM DIAGRAM



OUTLINE

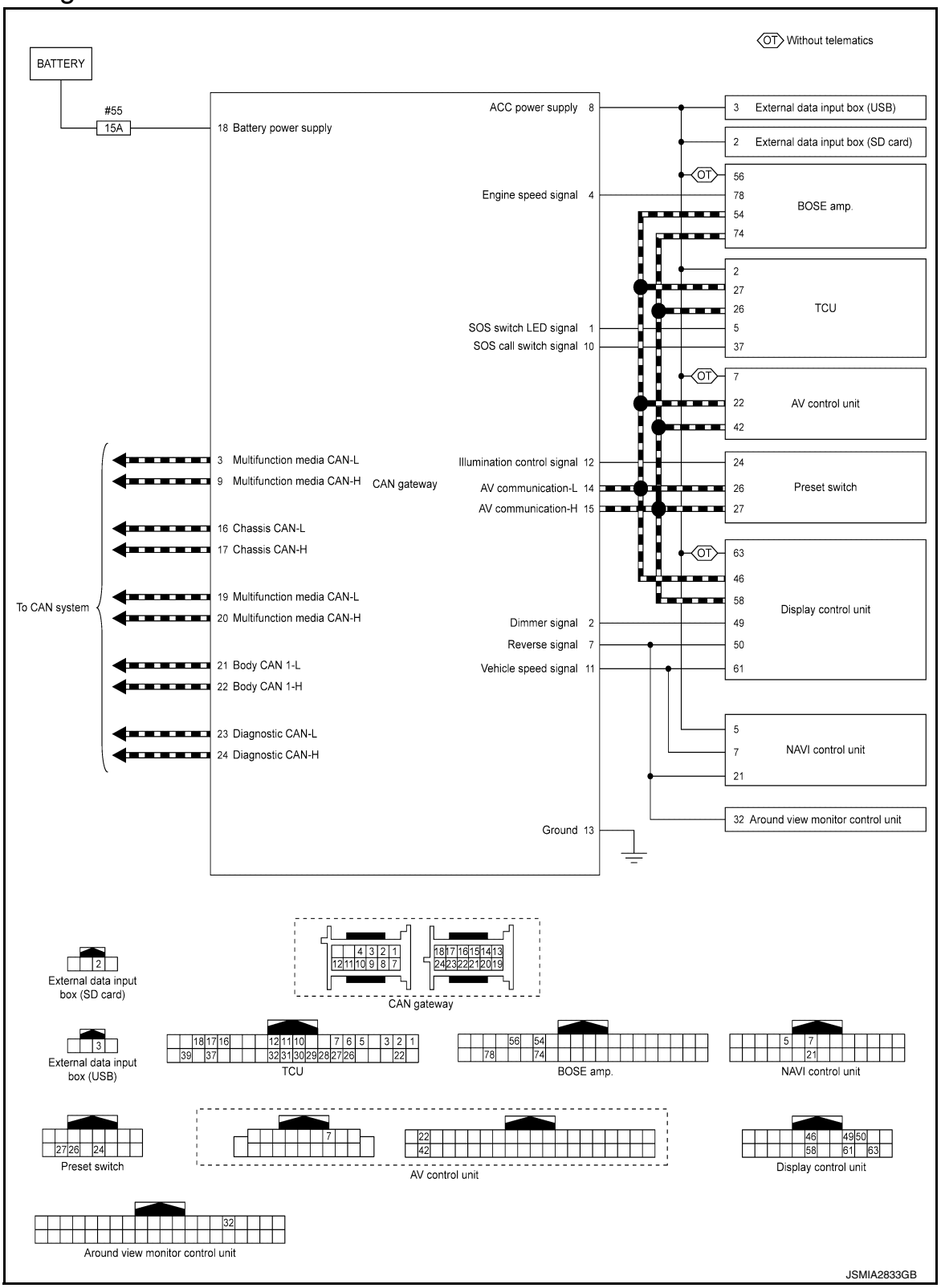
CAN gateway has a signal buffer function.
CAN gateway receives each signal via CAN communication. And it converts the signal to digital/PWM (pulse) and outputs them.

CAN Gateway Output	
Dimmer signal	Digital
Engine speed signal	PWM
Reverse signal	Digital
ACC power supply	Digital
Vehicle speed signal	PWM
Illumination control signal	PWM

CAN Gateway Output	
SOS switch LED signal	Digital
SOS call switch signal	Digital

Circuit Diagram

INFOID:0000000013768157



DIAGNOSIS SYSTEM (CAN GATEWAY)

CONSULT Function

INFOID:0000000013768158

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with CAN gateway.

Diagnosis mode	Function Description
Self Diagnostic Result	Displays the diagnosis results judged by CAN gateway.
DATA MONITOR	Input/Output data in the CAN gateway can be read.
ECU Identification	The CAN gateway part number is displayed.
Configuration	Automatically writes the vehicle specification when replacing CAN gateway.

SELF DIAGNOSTIC RESULT

Refer to LAN-156, "DTC Index".

- When “CRNT” is displayed on “Self Diagnostic Result”
  - The system is presently malfunctioning.
- When “PAST” is displayed on “Self Diagnostic Result”
  - System malfunction in the past is detected, but the system is presently normal.

Freeze Frame Data (FFD)

When DTC is detected, a vehicle state shown below is recorded and displayed on CONSULT.

Item name	Display item
Original Odometer Value Most	Odometer value stored when the respective DTC is detected for the first time.
Recent Odometer Value	Odometer value stored or updated when the DTC was detected the last time.
Frequency Counter	The frequency counter is defined as the total number of times the DTC status has transitioned from “stored - not active” to “active”
Ignition Cycle Counter	Indicates the number of consecutive operation cycles recorded since a DTC first became “stored - not active” and is no longer an active DTC. This information is needed for Self-healing functionality.

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitored item [Unit]	Description
DTC READ COUNTER [ ]	Indicates the number of attempts to read DTCs
ODOMETER [km]	Indicates the latest odometer value when DTCs were read

ECU IDENTIFICATION

The part number of CAN gateway is displayed.

CONFIGURATION

Refer to LAN-164, "Description".

ECU DIAGNOSIS INFORMATION

CAN GATEWAY

Reference Value

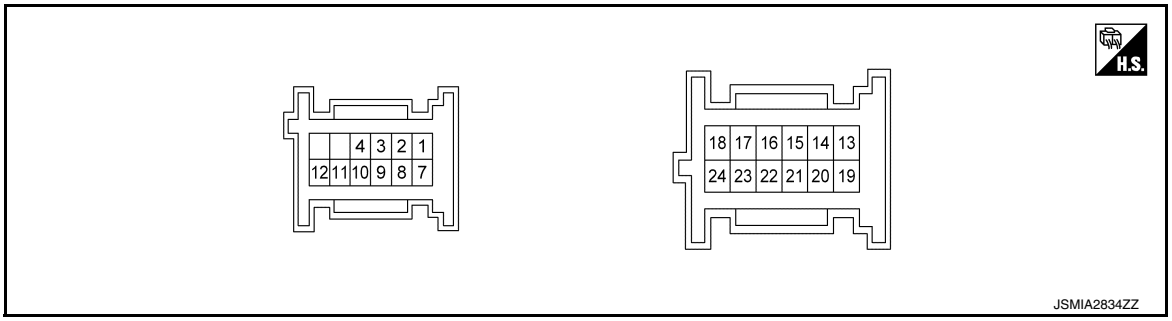
INFOID:0000000013768159

VALUES ON THE DIAGNOSIS TOOL

CONSULT MONITOR ITEM

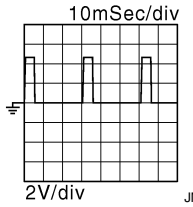
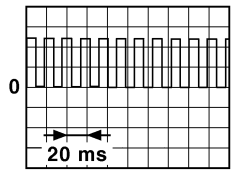
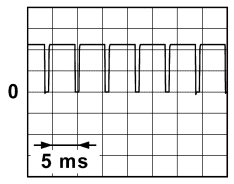
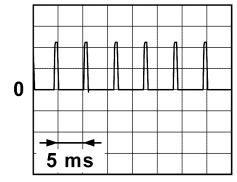
Monitor item	Condition		Value (Approx.)
DTC READ COUNTER	Ignition switch	ON	Indicates the number of attempts to read DTCs
ODOMETER	Ignition switch	ON	Indicates the latest odometer value when DTCs were read

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Standard	Reference value
+	–	Signal name	Input/ Output				
1 (W)	Ground	SOS switch LED signal	Output	Ignition switch ON		—	5.0 V
2 (R)	Ground	Dimmer signal	Output	Ignition switch ON	Day mode [When bright outside of the vehicle. (The condition is related light & rain sensor.)]	0.0 – 3.0 V	0 V
					Night mode [When dark outside of the vehicle. (The condition is related light & rain sensor.)]	7.0 – 14.0 V	12.0 V
3 (P)	—	Multifunction media CAN-L	Input/ Output	—		—	—

Terminal No. (Wire color)		Description		Condition		Standard	Reference value
+	–	Signal name	Input/ Output				
4 (O)	Ground	Engine speed signal	Output	Engine is running • Idle speed **NOTE:** The pulse cycle changes depending on engine type.		—	 JMBIA0076GB
7 (BR)	Ground	Reverse signal	Output	Ignition switch ON	R position	9.0 V or more	12.0 V
					Other than above	3.0 V or less	0 V
8 (V)	Ground	ACC power supply	Output	Ignition switch ACC		9.0 – 16 V	12.0 V
9 (L)	—	Multifunction media CAN-H	Input/ Output	—		—	—
10 (W)	Ground	SOS call switch signal	Output	Ignition switch ON	When pressing SOS switch (telematics switch)	Less than 1.0 V	0 V
					Except for above	—	5.0 V
11 (Y)	Ground	Vehicle speed signal	Output	[Ignition switch ON] • When vehicle speed is approx. 40 km/h (25 MPH)		Waveform according to vehicle speed is input.	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
12 (W)	Ground	Illumination control signal	Output	Ignition switch ON	Illumination is minimum (Dark)	Waveform according to meter illumination control.	10.0 V  JSMIA2551GB
					Illumination is maximum (Bright)		0.03 V  JSMIA2552GB
13 (B)	Ground	Ground	—	Ignition switch ON		0 – 0.1 V	Approx. 0 V
14 (G)	—	AV communication-L	Input/ Output	—		—	—

Terminal No. (Wire color)		Description		Condition	Standard	Reference value
+	–	Signal name	Input/ Output			
15 (L)	—	AV communication-H	Input/ Output	—	—	—
16 (G)	—	Chassis CAN-L	Input/ Output	—	—	—
17 (W)	—	Chassis CAN-H	Input/ Output	—	—	—
18 (O)	Ground	Battery power supply	Input	Ignition switch OFF	9.0 — 16.0 V	Battery voltage
19 (P)	—	Multifunction media CAN-L	Input/ Output	—	—	—
20 (L)	—	Multifunction media CAN-H	Input/ Output	—	—	—
21 (BR)	—	Body CAN 1-L	Input/ Output	—	—	—
22 (R)	—	Body CAN 1-H	Input/ Output	—	—	—
23 (L)	—	Diagnostic CAN-L	Input/ Output	—	—	—
24 (V)	—	Diagnostic CAN-H	Input/ Output	—	—	—

DTC Index

INFOID:0000000013768160

DTC		Items (CONSULT screen terms)	Sub type (CONSULT screen terms)	Reference
B210A	00	Power Supply circuit	[NO SUBTYPE INFORMATION]	LAN-165, "DTC Description"
B210B	00	Power Supply circuit	[NO SUBTYPE INFORMATION]	LAN-166, "DTC Description"
B210D	00	Power supply	[NO SUBTYPE INFORMATION]	LAN-167, "DTC Description"
B210E	00	Power supply	[NO SUBTYPE INFORMATION]	LAN-168, "DTC Description"
B3002	11	Digital output illumi ILL has malf	[CIRCUIT SHORT TO GROUND]	LAN-169, "DTC Description"
	15		[CIRC SHORT TO BATT OR OPEN]	
B3003	12	PWM output ANC ENG TACH has malf	[CIRCUIT SHORT TO BATTERY]	LAN-171, "DTC Description"
	14		[CIRC SHORT TO GRND OR OPEN]	
B3005	11	Digital output reverse gear has malf	[CIRCUIT SHORT TO GROUND]	LAN-174, "DTC Description"
	15		[CIRC SHORT TO BATT OR OPEN]	
B3006	11	Digital output ACC has a malfuntion	[CIRCUIT SHORT TO GROUND]	LAN-178, "DTC Description"
	15		[CIRC SHORT TO BATT OR OPEN]	
B3007	11	Digital output E CALL has a malfuntion	[11 CIRCUIT SHORT TO GROUND]	LAN-184, "DTC Description"
	12		[12 CIRCUIT SHORT TO BATTERY]	
	13		[13 CIRCUIT OPEN]	
B3008	12	PWM output speed signal has malf	[CIRCUIT SHORT TO BATTERY]	LAN-187, "DTC Description"
	14		[CIRC SHORT TO GRND OR OPEN]	
B3009	12	PWM output ill cont has malf	[CIRCUIT SHORT TO BATTERY]	LAN-191, "DTC Description"
	14		[CIRC SHORT TO GRND OR OPEN]	

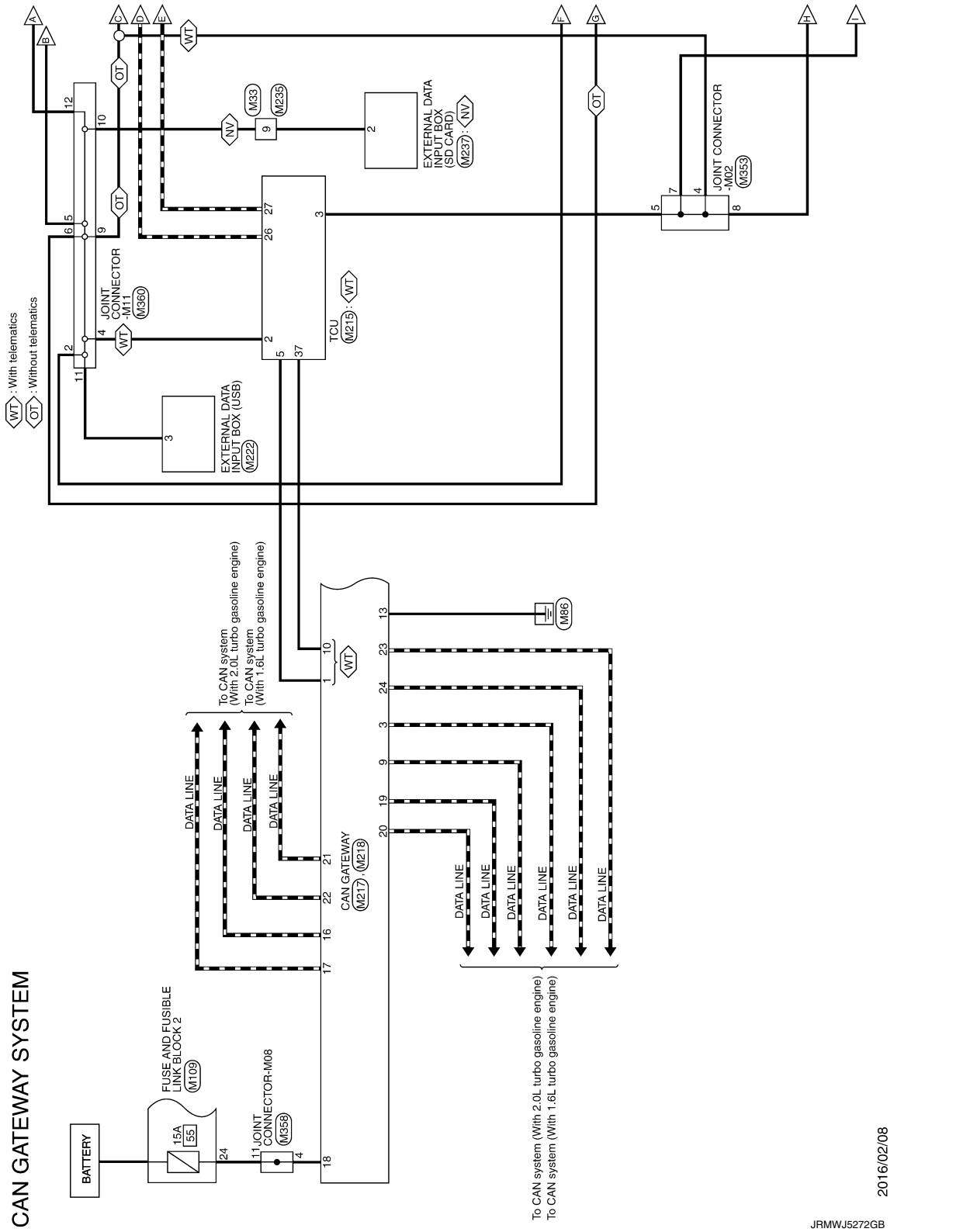
DTC		Items (CONSULT screen terms)	Sub type (CONSULT screen terms)	Reference
P0607	04	CONTROL MODULE	[SYSTEM INTERNAL MALFUNCTN]	LAN-194, "DTC Description"
	09		[COMPONENT MALFUNCTION]	
	42		[MEMORY ERROR]	
	47		[WATCHDOG/SAFETY μC ERROR]	
U0019	88	Interior CAN communication	[BUS OFF]	LAN-196, "DTC Description"
U0037	88	Vehicle communication bus B	[BUS OFF]	LAN-197, "DTC Description"
U0100	87	Communication error	[MISSING MESSAGE]	LAN-198, "DTC Description"
U0122	87	Communication error	[MISSING MESSAGE]	LAN-199, "DTC Description"
U0141	87	Communication error	[MISSING MESSAGE]	LAN-200, "DTC Description"
U0147	87	Comm ECU audio or comand malf	[MISSING MESSAGE]	LAN-201, "DTC Description"
U0155	87	COMMUNICATION ERROR (LOST)	[MISSING MESSAGE]	LAN-202, "DTC Description"
U0159	87	Communication error	[MISSING MESSAGE]	LAN-203, "DTC Description"
U0163	87	Lost comm navigation control module	[MISSING MESSAGE]	LAN-204, "DTC Description"
U0164	87	COMMUNICATION ERROR (LOST)	[MISSING MESSAGE]	LAN-205, "DTC Description"
U0168	87	COMMUNICATION ERROR (LOST)	[MISSING MESSAGE]	LAN-206, "DTC Description"
U0198	87	Lost comm telematic control module	[MISSING MESSAGE]	LAN-207, "DTC Description"
U0212	87	COMMUNICATION ERROR (LOST)	[MISSING MESSAGE]	LAN-208, "DTC Description"
U0252	87	Comm trailer malf	[MISSING MESSAGE]	LAN-209, "DTC Description"
U0255	87	Lost communication front display	[MISSING MESSAGE]	LAN-210, "DTC Description"
U1038	88	Comm w diagnostic CAN bus has malf	[BUS OFF]	LAN-211, "DTC Description"
U105B	87	Comm w strng wheel electronics malf	[MISSING MESSAGE]	LAN-212, "DTC Description"
U116A	00	Bus keepawake unit was dtctd V-CAN	[NO SUBTYPE INFORMATION]	LAN-213, "DTC Description"
U1900	88	Comm w V-CAN bus has malf	[BUS OFF]	LAN-215, "DTC Description"
U1901	88	Comm w M-CAN bus has malf	[BUS OFF]	LAN-216, "DTC Description"

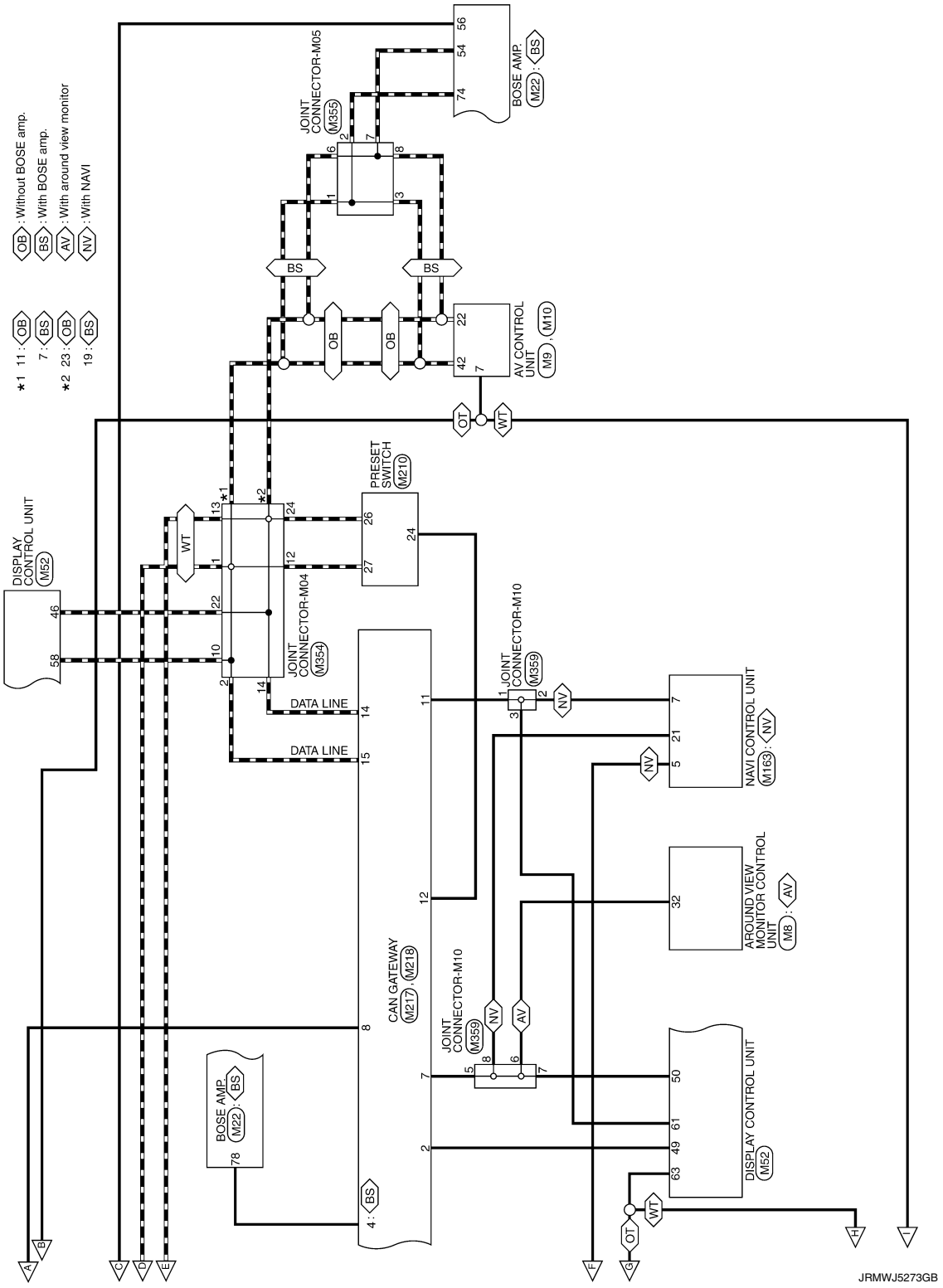
WIRING DIAGRAM

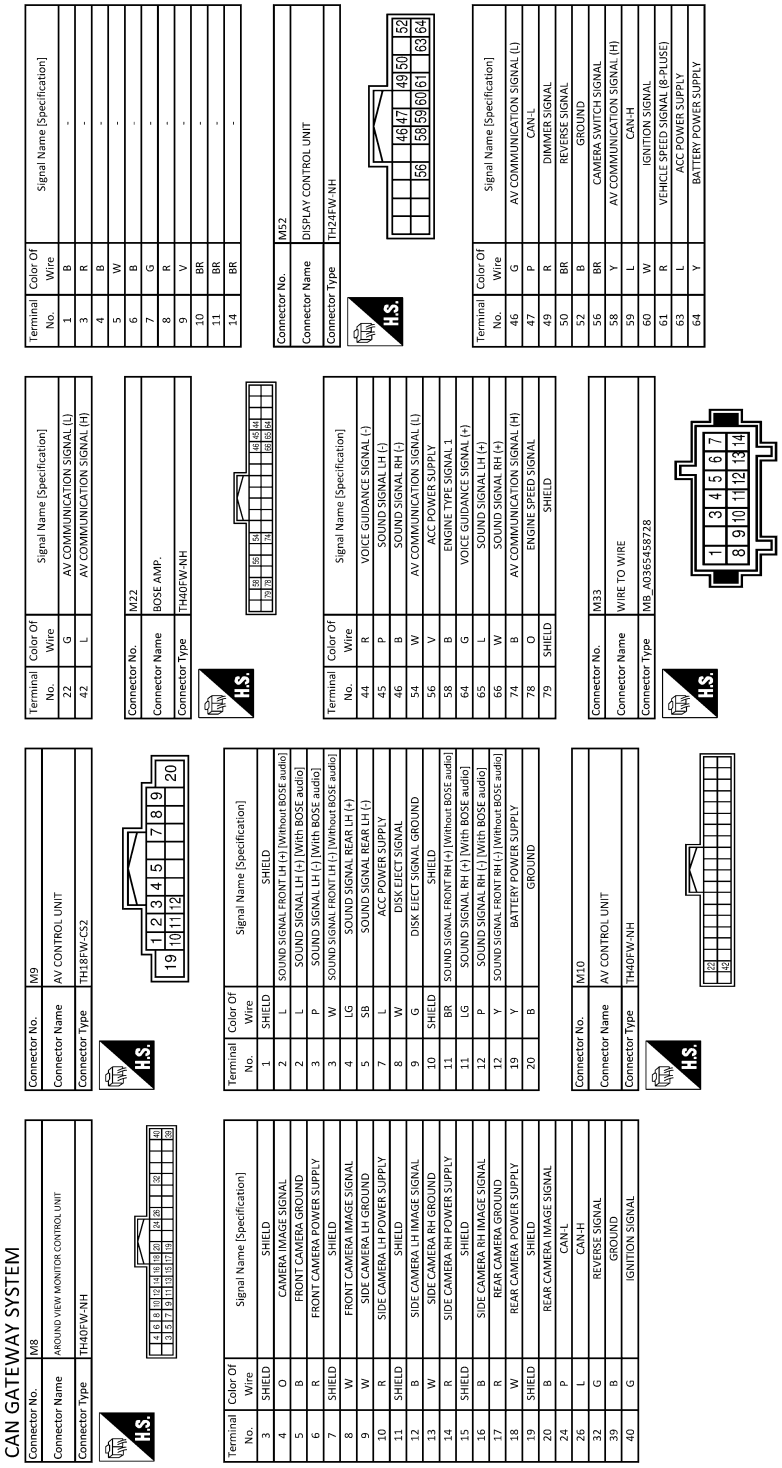
CAN GATEWAY SYSTEM

Wiring Diagram

INFOID:0000000013768161




OB : Without BOSE amp.
BS : With BOSE amp.
AV : With around view monitor
NV : With NAVI
*1 11 : OB
7 : BS
*2 23 : OB
19 : BS
JOINT CONNECTOR-M05 (M355)
BOSE AMP. (M22) : BS
AV CONTROL UNIT (M9), (M10)
PRESET SWITCH (M210)
DISPLAY CONTROL UNIT (M52)
JOINT CONNECTOR-M04 (M354)
JOINT CONNECTOR-M10 (M359)
DATA LINE
DATA LINE
NAVI CONTROL UNIT (M163) : NV
AROUND VIEW MONITOR CONTROL UNIT (M8) : AV
CAN GATEWAY (M217), (M218)
JOINT CONNECTOR-M10 (M359)
BOSE AMP. (M22) : BS
DISPLAY CONTROL UNIT (M52)
JRMWJ5273GB



JRMWJ5274GB

CAN GATEWAY SYSTEM

Connector No.	M109
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A0055459901

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
24	Y	-

Connector No.	M163
Connector Name	NAVI CONTROL UNIT
Connector Type	TH28FW

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BATTERY POWER SUPPLY
3	B	GROUND
5	L	ACC POWER SUPPLY
7	O	VEHICLE SPEED SIGNAL (8-PULSE)
12	G	MICROPHONE SIGNAL
13	SHIELD	SHIELD
14	W	VOICE GUIDANCE SIGNAL (+)
15	P	BATTERY POWER SUPPLY
17	B	GROUND
19	V	IGNITION SIGNAL
21	BR	REVERSE SIGNAL
26	R	MICROPHONE SIGNAL GROUND
27	SHIELD	SHIELD
28	B	VOICE GUIDANCE SIGNAL (-)

Connector No.	M210
Connector Name	PRESET SWITCH
Connector Type	TH16FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
20	O	ACC POWER SUPPLY
21	W	DISK EJECT SIGNAL
22	BR	CAMERA SWITCH SIGNAL
23	G	DISK EJECT SIGNAL GROUND
24	W	ILLUMINATION CONTROL SIGNAL
25	B	GROUND
26	G	AV COMMUNICATION SIGNAL (L)
27	L	AV COMMUNICATION SIGNAL (H)
28	W	ILLUMINATION SIGNAL

Connector No.	M215
Connector Name	TCU
Connector Type	TH40FB-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BATTERY POWER SUPPLY
2	L	ACC POWER SUPPLY
3	V	ACC OUT PUT
5	GR	SOS SWITCH LED SIGNAL
6	L	CAN-H
7	P	CAN-L
10	W	IGNITION SIGNAL
11	SHIELD	MICROPHONE SIGNAL GROUND
12	O	MICROPHONE SIGNAL
16	SHIELD	SHIELD
17	R	MICROPHONE SIGNAL

18	L	MICROPHONE VCC
26	Y	AV COMMUNICATION (H)
27	G	AV COMMUNICATION (L)
28	B	GROUND
29	B	GROUND
30	SHIELD	SHIELD
31	B	SOUND SIGNAL (+)
32	W	SOUND SIGNAL (-)
37	G	SOS CALL SWITCH SIGNAL

Connector No.	M217
Connector Name	CAN GATEWAY
Connector Type	MB_A0225400481

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	SOS SWITCH LED SIGNAL
2	R	DIMMER SIGNAL
3	P	MULTIFUNCTION MEDIA CAN-L
4	O	ENGINE SPEED SIGNAL
7	BR	REVERSE SIGNAL
8	V	ACC POWER SUPPLY
9	L	MULTIFUNCTION MEDIA CAN-H
10	W	SOS CALL SWITCH SIGNAL
11	Y	VEHICLE SPEED SIGNAL
12	W	ILLUMINATION CONTROL SIGNAL

Connector No.	M218
Connector Name	CAN GATEWAY
Connector Type	MB_A0225400581

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
13	B	GROUND
14	G	AV COMMUNICATION-L
15	L	AV COMMUNICATION-H
16	G	CHASSIS CAN-L
17	W	CHASSIS CAN-H
18	O	BATTERY POWER SUPPLY
19	P	MULTIFUNCTION MEDIA CAN-L
20	L	MULTIFUNCTION MEDIA CAN-H
21	BR	BODY CAN 1-L
22	R	BODY CAN 1-H
23	L	DIAGNOSTIC CAN-L
24	V	DIAGNOSTIC CAN-H

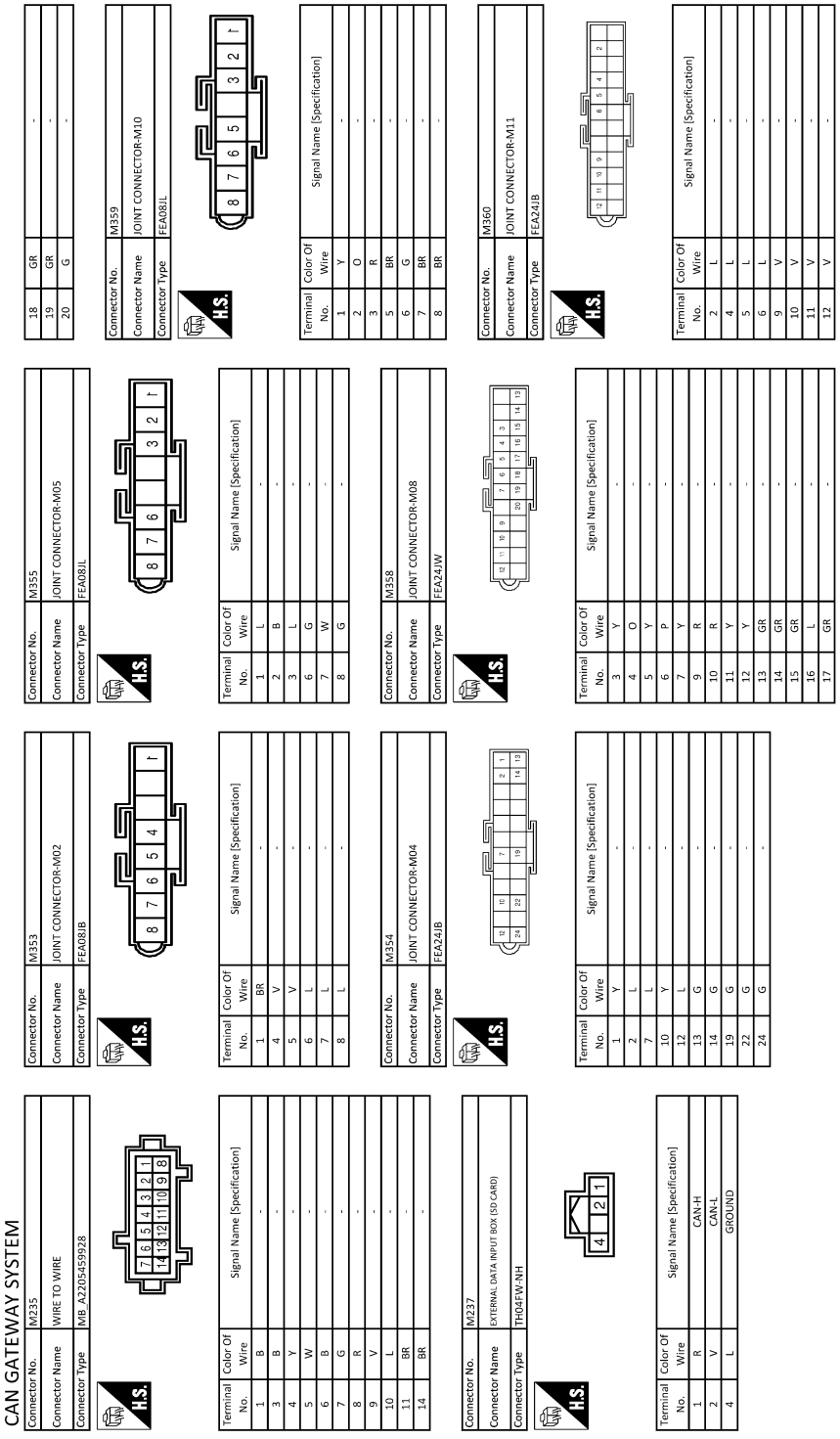
Connector No.	M222
Connector Name	EXTERNAL DATA INPUT BOX (USB)
Connector Type	TH04FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
3	V	ACC POWER SUPPLY
4	R	BATTERY POWER SUPPLY

JRMWJ5275GB

CAN GATEWAY SYSTEM



JRMWJ5276GB

BASIC INSPECTION

ADDITIONAL SERVICE WHEN REPLACING CAN GATEWAY

Description

INFOID:0000000013768162

AFTER REPLACEMENT

After replacing CAN gateway, the following items must be performed;
- Write Configuration

For work procedure, refer to LAN-163, "Work Procedure".

Work Procedure

INFOID:0000000013768163

1. REPLACE CAN GATEWAY

Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

>> GO TO 2.

2. WRITING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “Read / Write Configuration”. Refer to LAN-164, "Description".

>> GO TO 3.

3. CHECK ALL ECU SELF-DIAGNOSIS RESULTS

1. Erase all ECU self-diagnosis results using CONSULT.
2. Turn the ignition switch OFF.
3. Turn the ignition switch ON and wait for 2 seconds or more.
4. Check that all ECU self-diagnosis results have no DTC of CAN communication.

>> WORK END

CONFIGURATION (CAN GATEWAY)

Description

INFOID:0000000013768164

Vehicle specification needs to be written with CONSULT because it is not written after replacing the CAN gateway.
The configuration requires network connection. CONSULT connects to network and then it downloads the configuration data from the server. Then CONSULT writes the vehicle specification to the CAN gateway.
Refer to LAN-164, "Work Procedure".
NOTE:
For details the network connection and operation, refer to “CONSULT Operation Manual”.
The configuration no need to “save” configuration data from the CAN gateway.The configuration data is always generated freshly at the server and then downloaded to the CONSULT.
CAUTION:
Follow the instructions listed below.
- **Complete the procedure of “Read / Write Configuration” in order.**
- **If incorrect “Read / Write Configuration”, incidents might occur.**
- **Never perform “Read / Write Configuration” except for new CAN gateway.**

Work Procedure

INFOID:0000000013768165

1.WRITING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “WRITE CONFIGURATION” for CONTROL UNIT according to “CONSULT Operation Manual”.
NOTE:
- Log in the network according to CONSULT guidance.
- For details the network connection and operation, refer to “CONSULT Operation Manual”.

>> WORK END

DTC/CIRCUIT DIAGNOSIS

B210A BATTERY VOLTAGE

DTC Description

INFOID:0000000013768166

DTC DETECTION LOGIC

DTC		CONSULT screen terms		DTC detection condition	
		(Trouble diagnosis content)	[Malfunction type]		
B210A	00	Power Supply circuit (The power supply in the system is too low)	NO SUBTYPE INFORMATION	Diagnosis condition	CAN gateway is active
				Signal (terminal)	Battery voltage signal (CAN message from electronic ignition switch control unit)
				Threshold	Battery voltage signal < 9.0 V
				Diagnosis delay time	Time > 15 seconds

POSSIBLE CAUSE

- Battery voltage too low (Battery voltage signal too low)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn the ignition switch ON and wait at least 15 seconds.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B210A” detected?

YES >> Refer to LAN-165, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768167

B210A-00

1. CHECK BATTERY AND CHARGING SYSTEM

Check battery and charging system condition. Refer to PG-102, "MAIN BATTERY : Work Procedure" and CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> Check power supply routing circuit.
NO >> Repair or replace the malfunctioning parts.

B210B BATTERY VOLTAGE

DTC Description

INFOID:0000000013768168

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
B210B	00	Power Supply circuit (The power supply in the system is too high)	NO SUBTYPE INFORMATION	Diagnosis condition	CAN gateway is active
				Signal (terminal)	Battery voltage signal (CAN message from electronic ignition switch control unit)
				Threshold	Battery voltage signal > 16.0 V
				Diagnosis delay time	Time > 15 seconds

POSSIBLE CAUSE

- Battery voltage too high (Battery voltage signal too high)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

With CONSULT

1. Turn the ignition switch ON and wait at least 15 seconds.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B210B” detected?

YES >> Refer to LAN-166, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768169

B210B-00

1.CHECK BATTERY AND CHARGING SYSTEM

Check battery and charging system condition. Refer to PG-102, "MAIN BATTERY : Work Procedure" and CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> Check power supply routing circuit.
NO >> Repair or replace the malfunctioning parts.

B210D BATTERY POWER SUPPLY

DTC Description

INFOID:0000000013768170

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
B210D	00	Power supply (The power supply is too low)	NO SUBTYPE INFORMATION	Diagnosis condition	CAN gateway is active
				Signal (terminal)	Battery power supply
				Threshold	Battery power supply input voltage < 9.0 V
				Diagnosis delay time	Time > 15 seconds

POSSIBLE CAUSE

- Battery power supply too low

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn the ignition switch ON and wait at least 15 seconds.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B210D” detected?

YES >> Refer to LAN-167, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768171

B210D-00

1.CHECK BATTERY AND CHARGING SYSTEM

Check battery and charging system condition. Refer to PG-102, "MAIN BATTERY : Work Procedure" and CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2.CHECK CAN GATEWAY POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of CAN gateway. Refer to LAN-217, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the CAN gateway. Refer to LAN-218, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

B210E BATTERY POWER SUPPLY

DTC Description

INFOID:0000000013768172

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
B210E	00	Power supply (The power supply is too high)	NO SUBTYPE INFORMATION	Diagnosis condition	CAN gateway is active
				Signal (terminal)	Battery power supply
				Threshold	Battery power supply input voltage > 16.0 V
				Diagnosis delay time	Time > 15 seconds

POSSIBLE CAUSE

- Battery power supply too high

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn the ignition switch ON and wait at least 15 seconds.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B210E” detected?

YES >> Refer to LAN-168, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768173

B210E-00

1.CHECK BATTERY AND CHARGING SYSTEM

Check battery and charging system condition. Refer to PG-102, "MAIN BATTERY : Work Procedure" and CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2.CHECK CAN GATEWAY POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of CAN gateway. Refer to LAN-217, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the CAN gateway. Refer to LAN-218, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

B3002 DIMMER SIGNAL

DTC Description

INFOID:0000000013768174

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
B3002	11	Digital output illumi ILL has malf (Digital output ILLUMINATION_ILL has a malfunction)	CIRCUIT SHORT TO GROUND	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	Dimmer signal
				Threshold	Short circuit to ground detected by output driver
				Diagnosis delay time	First occurrence reported by driver
	15		CIRC SHORT TO BATT OR OPEN	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	Dimmer signal
				Threshold	Open load or Short to battery detected by output driver
				Diagnosis delay time	First occurrence reported by driver

POSSIBLE CAUSE

11 Circuit Short To Ground
- Dimmer signal circuit short to ground
- Connected unit
- Display control unit

15 Circ Short To Batt Or Open
- Dimmer signal circuit short to battery
- Dimmer signal circuit open
- Connected unit
- Display control unit

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3002” detected?

YES >> Refer to LAN-169, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768175

B3002-11

1.CHECK DIMMER SIGNAL CIRCUIT (SHORT TO GROUND)

1. Turn ignition switch OFF.
2. Disconnect CAN gateway connector and display control unit connector.
3. Check continuity between CAN gateway harness connector and ground.

CAN gateway		Ground	Continuity
Connector	Terminal		
M217	2	—	Not existed

Is the inspection result normal?

YES >> Replace display control unit. Refer to AV-239, "Removal and Installation".
NO >> Repair or replace harness.

B3002-15

1.CHECK HARNESS CONNECTOR CONNECTION

1. Turn the ignition switch OFF.
2. Check the following harness connector for disconnection or looseness.

- CAN gateway
- Display control unit

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK DIMMER SIGNAL CIRCUIT (SHORT TO BATTERY)

1. Disconnect CAN gateway connector and display control unit connector.
2. Check voltage between CAN gateway harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN gateway		Ground	
Connector	Terminal		
M217	2	—	0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness.

3.CHECK DIMMER SIGNAL CIRCUIT (OPEN)

1. Check continuity between CAN gateway harness connector and display control unit harness connector.

CAN gateway		Display control unit		Continuity
Connector	Terminal	Connector	Terminal	
M217	2	M52	49	Existed

Is the inspection result normal?

YES >> Replace display control unit. Refer to AV-239, "Removal and Installation".
NO >> Repair or replace harness.

B3003 ENGINE SPEED SIGNAL

DTC Description

INFOID:0000000013768176

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
B3003	12	PWM output ANC ENG TACH has malf (PWM Output ANC_ENGINE_TACH has a malfunction)	CIRCUIT SHORT TO BATTERY	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	Engine speed signal
				Threshold	Short circuit to battery detected by output driver
				Diagnosis delay time	First occurrence reported by driver
	14		CIRC SHORT TO GRND OR OPEN	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	Engine speed signal
				Threshold	Open load or Short to ground detected by output driver
				Diagnosis delay time	First occurrence reported by driver

POSSIBLE CAUSE

12 Circuit Short To Battery
- Engine speed signal circuit short to battery
- Connected unit
- BOSE amp.

14 Circ Short To Grnd Or Open
- Engine speed signal circuit short to ground
- Engine speed signal circuit open
- Connected unit
- BOSE amp.

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3003” detected?

YES >> Refer to LAN-171, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768177

B3003-12

1.CHECK ENGINE SPEED SIGNAL CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN gateway
- BOSE amp.
3. Check voltage between CAN gateway harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN gateway		Ground	
Connector	Terminal		
M217	4	—	0 V

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness.

2.POSSIBLE CAUSE CONFIRMATION (BOSE AMP.)

With CONSULT

1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- CAN gateway
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3003” detected?

YES >> Replace BOSE amp. Refer to AV-246, "Removal and Installation".
NO >> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

B3003-14

1.CHECK HARNESS CONNECTOR CONNECTION

1. Turn the ignition switch OFF.
2. Check the following harness connector for disconnection or looseness.
- CAN gateway
- BOSE amp.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK ENGINE SPEED SIGNAL CIRCUIT (OPEN)

1. Disconnect the following unit connectors.
- CAN gateway
- BOSE amp.
2. Check continuity between CAN gateway harness connector and the following unit harness connector.
- BOSE amp.

CAN gateway – BOSE amp.

CAN gateway		BOSE amp.		Continuity
Connector	Terminal	Connector	Terminal	
M217	4	M22	78	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness.

3.CHECK ENGINE SPEED SIGNAL CIRCUIT (SHORT TO GROUND)

1. Check continuity between CAN gateway harness connector and ground.

CAN gateway		Ground	Continuity
Connector	Terminal		
M217	4	—	Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. POSSIBLE CAUSE CONFIRMATION (BOSE AMP.)

With CONSULT

1. Turn the ignition switch OFF.
2. Connect the following unit connectors.

- CAN gateway

3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3003” detected?

YES >> Replace BOSE amp. Refer to AV-246, "Removal and Installation".
NO >> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

B3005 REVERSE SIGNAL

DTC Description

INFOID:0000000013768178

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
B3005	11	Digital output reverse gear has malf (Digital Output REVERSE_GEAR has a malfunction)	CIRCUIT SHORT TO GROUND	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	Reverse signal
				Threshold	Short circuit to ground detected by output driver
				Diagnosis delay time	First occurrence reported by driver
	15		CIRC SHORT TO BATT OR OPEN	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	Reverse signal
				Threshold	Open load or Short to battery detected by output driver
				Diagnosis delay time	First occurrence reported by driver

POSSIBLE CAUSE

11 Circuit Short To Ground
- Reverse signal circuit short to ground
- Connected unit
- Display control unit
- NAVI control unit (With NAVI system)
- Around view monitor control unit (With Around view monitor system)

15 Circ Short To Batt Or Open
- Reverse signal circuit short to battery
- Reverse signal circuit open
- Connected unit
- Display control unit
- NAVI control unit (With NAVI system)
- Around view monitor control unit (With Around view monitor system)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3005” detected?

YES >> Refer to LAN-174, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768179

B3005-11

1.CHECK REVERSE SIGNAL CIRCUIT (SHORT TO GROUND)

1. Turn ignition switch OFF.

2. Disconnect the following unit connectors.
- CAN gateway
- Display control unit
- NAVI control unit (With NAVI system)
- Around view monitor control unit (With Around view monitor system)
3. Check continuity between CAN gateway harness connector and ground.

CAN gateway		Ground	Continuity
Connector	Terminal		
M217	7	—	Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness.

2.POSSIBLE CAUSE CONFIRMATION (DISPLAY CONTROL UNIT)

With CONSULT
1. Connect the following unit connectors.
- CAN gateway
- Display control unit
2. Turn the ignition switch ON.
3. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3005” detected?

YES >> Replace display control unit. Refer to AV-239, "Removal and Installation".
NO >> GO TO 3.

3.POSSIBLE CAUSE CONFIRMATION (NAVI CONTROL UNIT)

NOTE:
NAVI system is not equipped. GO TO 4.

With CONSULT
1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- NAVI control unit
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3005” detected?

YES >> Replace NAVI control unit. Refer to AV-239, "Removal and Installation".
NO >> GO TO 4.

4.POSSIBLE CAUSE CONFIRMATION (AROUND VIEW MONITOR CONTROL UNIT)

NOTE:
Around view monitor system is not equipped. GO TO 5.

With CONSULT
1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- Around view monitor control unit
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3005” detected?

YES >> Replace around view monitor control unit. Refer to AV-347, "Removal and Installation".
NO >> GO TO 5.

5.REPLACE CAN GATEWAY

>> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

B3005-15

1.CHECK HARNESS CONNECTOR CONNECTION

1. Turn the ignition switch OFF.
2. Check the following harness connector for disconnection or looseness.

- CAN gateway
- Display control unit
- NAVI control unit (With NAVI system)
- Around view monitor control unit (With Around view monitor system)

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK REVERSE SIGNAL CIRCUIT (SHORT TO BATTERY)

1. Disconnect the following unit connectors.

- CAN gateway
- Display control unit
- NAVI control unit (With NAVI system)
- Around view monitor control unit (With Around view monitor system)

2. Check voltage between CAN gateway harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN gateway		Ground	
Connector	Terminal		
M217	7	—	0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness.

3.CHECK REVERSE SIGNAL CIRCUIT (OPEN)

1. Check continuity between CAN gateway harness connector and the following unit harness connector.

- Display control unit
- NAVI control unit (With NAVI system)
- Around view monitor control unit (With Around view monitor system)

CAN gateway – Around view monitor control unit

CAN gateway		Around view monitor control unit		Continuity
Connector	Terminal	Connector	Terminal	
M217	7	M8	32	Existed

CAN gateway – Display control unit

CAN gateway		Display control unit		Continuity
Connector	Terminal	Connector	Terminal	
M217	7	M52	50	Existed

CAN gateway – NAVI control unit

CAN gateway		NAVI control unit		Continuity
Connector	Terminal	Connector	Terminal	
M217	7	M163	21	Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.POSSIBLE CAUSE CONFIRMATION (DISPLAY CONTROL UNIT)

With CONSULT

1. Connect the following unit connectors.
- CAN gateway
- Display control unit
2. Turn the ignition switch ON.
3. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3005” detected?

YES >> Replace display control unit. Refer to AV-239, "Removal and Installation".
NO >> GO TO 5.

5. POSSIBLE CAUSE CONFIRMATION (NAVI CONTROL UNIT)

NOTE:
NAVI system is not equipped. GO TO 6.

With CONSULT
1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- NAVI control unit
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3005” detected?

YES >> Replace NAVI control unit. Refer to AV-239, "Removal and Installation".
NO >> GO TO 6.

6. POSSIBLE CAUSE CONFIRMATION (AROUND VIEW MONITOR CONTROL UNIT)

NOTE:
Around view monitor system is not equipped. GO TO 7.

With CONSULT
1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- Around view monitor control unit
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3005” detected?

YES >> Replace around view monitor control unit. Refer to AV-347, "Removal and Installation".
NO >> GO TO 7.

7. REPLACE CAN GATEWAY

>> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

B3006 ACC POWER OUTPUT

DTC Description

INFOID:0000000013768180

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
B3006	11	Digital output ACC has a malfuntion (Digital Output ACC has a malfuntion)	CIRCUIT SHORT TO GROUND	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	ACC power supply
				Threshold	Short circuit to ground detected by output driver
				Diagnosis delay time	First occurrence reported by driver
	15		CIRC SHORT TO BATT OR OPEN	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	ACC power supply
				Threshold	Open load or Short to battery detected by output driver
				Diagnosis delay time	First occurrence reported by driver

POSSIBLE CAUSE

11 Circuit Short To Ground
- ACC power supply circuit short to ground
- Connected unit
- External data input box (USB)
- NAVI control unit (With NAVI system)
- External data input box (SD card) (With NAVI system)
- AV control unit (With telematics system)
- Display control unit (With telematics system)
- BOSE amp. (With telematics system, with BOSE audio)

15 Circ Short To Batt Or Open
- ACC power supply circuit short to battery
- ACC power supply circuit open
- Connected unit
- External data input box (USB)
- NAVI control unit (With NAVI system)
- External data input box (SD card) (With NAVI system)
- AV control unit (With telematics system)
- Display control unit (With telematics system)
- BOSE amp. (With telematics system, with BOSE audio)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Refer to LAN-179, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768181

B3006-11

1.CHECK ACC POWER SUPPLYCIRCUIT (SHORT TO GROUND)

1. Turn ignition switch OFF.
2. Disconnect the following unit connector.
- CAN gateway
- External data input box (USB)
- NAVI control unit (With NAVI system)
- External data input box (SD card) (With NAVI system)
- AV control unit (With telematics system)
- Display control unit (With telematics system)
- BOSE amp. (With telematics system, with BOSE audio)
3. Check continuity between CAN gateway harness connector and ground.

CAN gateway		Ground	Continuity
Connector	Terminal		
M217	8	—	Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness.

2.POSSIBLE CAUSE CONFIRMATION (EXTERNAL DATA INPUT BOX (USB))

With CONSULT
1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- CAN gateway
- External data input box (USB)
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace external data input box (USB). Refer to AV-244, "Removal and Installation".
NO >> GO TO 3.

3.POSSIBLE CAUSE CONFIRMATION (NAVI CONTROL UNIT)

NOTE:
NAVI system is not equipped. GO TO 5.

With CONSULT
1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- NAVI control unit
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace NAVI control unit. Refer to AV-241, "Removal and Installation".
NO >> GO TO 4.

4.POSSIBLE CAUSE CONFIRMATION (EXTERNAL DATA INPUT BOX (SD CARD))

With CONSULT
1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- External data input box (SD card)
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace External data input box (SD card). Refer to AV-245, "Removal and Installation".

NO >> GO TO 5.

5.POSSIBLE CAUSE CONFIRMATION (AV CONTROL UNIT)

NOTE:
Telematics system is not equipped. GO TO 8.

With CONSULT

1. Connect the following unit connectors.
- AV control unit
2. Turn the ignition switch ON.
3. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace AV control unit. Refer to AV-240, "Removal and Installation".
NO >> GO TO 6.

6.POSSIBLE CAUSE CONFIRMATION (DISPLAY CONTROL UNIT)

With CONSULT

1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- Display control unit
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace display control unit. Refer to AV-239, "Removal and Installation".
NO >> GO TO 7.

7.POSSIBLE CAUSE CONFIRMATION (BOSE AMP.)

NOTE:
BOSE system is not equipped. GO TO 8.

With CONSULT

1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- BOSE amp.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace BOSE amp. Refer to AV-246, "Removal and Installation".
NO >> GO TO 8.

8.REPLACE CAN GATEWAY

>> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

B3006-15

1.CHECK HARNESS CONNECTOR CONNECTION

1. Turn the ignition switch OFF.
2. Check the following harness connector for disconnection or looseness.
- CAN gateway
- External data input box (USB)
- NAVI control unit (With NAVI system)
- External data input box (SD card) (With NAVI system)
- AV control unit (With telematics system)
- Display control unit (With telematics system)
- BOSE amp. (With telematics system, with BOSE audio)

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK ACC POWER SUPPLYCIRCUIT (SHORT TO BATTERY)

1. Disconnect the following unit connectors.
- CAN gateway
- External data input box (USB)
- NAVI control unit (With NAVI system)
- External data input box (SD card) (With NAVI system)
- AV control unit (With telematics system)
- Display control unit (With telematics system)
- BOSE amp. (With telematics system, with BOSE audio)

2. Check voltage between CAN gateway harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN gateway		Ground	
Connector	Terminal		
M217	8	—	0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness.

3.CHECK ACC POWER SUPPLYCIRCUIT (OPEN)

1. Check continuity between CAN gateway harness connector and the following unit harness connector.
- External data input box (USB)
- NAVI control unit (With NAVI system)
- External data input box (SD card) (With NAVI system)
- AV control unit (With telematics system)
- Display control unit (With telematics system)
- BOSE amp. (With telematics system, with BOSE audio)

CAN gateway – External data input box (USB)

CAN gateway		External data input box (USB)		Continuity
Connector	Terminal	Connector	Terminal	
M217	8	M222	3	Existed

CAN gateway – NAVI control unit

CAN gateway		NAVI control unit		Continuity
Connector	Terminal	Connector	Terminal	
M217	8	M163	5	Existed

CAN gateway – External data input box (SD card)

CAN gateway		External data input box (SD card)		Continuity
Connector	Terminal	Connector	Terminal	
M217	8	M237	2	Existed

CAN gateway – AV control unit

CAN gateway		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M217	8	M9	7	Existed

CAN gateway – Display control unit

CAN gateway		Display control unit		Continuity
Connector	Terminal	Connector	Terminal	
M217	8	M52	63	Existed

CAN gateway – BOSE amp.

CAN gateway		BOSE amp.		Continuity
Connector	Terminal	Connector	Terminal	
M217	8	M22	56	Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4. POSSIBLE CAUSE CONFIRMATION (EXTERNAL DATA INPUT BOX (USB))

With CONSULT

1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- CAN gateway
- External data input box (USB)
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace external data input box (USB). Refer to AV-244, "Removal and Installation".
NO >> GO TO 5.

5. POSSIBLE CAUSE CONFIRMATION (NAVI CONTROL UNIT)

NOTE:
NAVI system is not equipped. GO TO 7.

With CONSULT

1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- NAVI control unit
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace NAVI control unit. Refer to AV-241, "Removal and Installation".
NO >> GO TO 6.

6. POSSIBLE CAUSE CONFIRMATION (EXTERNAL DATA INPUT BOX (SD CARD))

With CONSULT

1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- External data input box (SD card)
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace External data input box (SD card). Refer to AV-245, "Removal and Installation".
NO >> GO TO 7.

7. POSSIBLE CAUSE CONFIRMATION (AV CONTROL UNIT)

NOTE:
Telematics system is not equipped. GO TO 10.

With CONSULT

1. Connect the following unit connectors.
- AV control unit
2. Turn the ignition switch ON.
3. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace AV control unit. Refer to AV-240, "Removal and Installation".
NO >> GO TO 6.

8. POSSIBLE CAUSE CONFIRMATION (DISPLAY CONTROL UNIT)

With CONSULT
1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- Display control unit
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace display control unit. Refer to AV-239, "Removal and Installation".
NO >> GO TO 7.

9. POSSIBLE CAUSE CONFIRMATION (BOSE AMP.)

NOTE:
BOSE system is not equipped. GO TO 10.

With CONSULT
1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- BOSE amp.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3006” detected?

YES >> Replace BOSE amp. Refer to AV-246, "Removal and Installation".
NO >> GO TO 10.

10. REPLACE CAN GATEWAY

>> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

B3007 E-CALL SIGNAL

DTC Description

INFOID:0000000013779998

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
B3007	11	Digital output E CALL has a malfuntion (Digital Output E_CALL has a malfunction)	CIRCUIT SHORT TO GROUND	Diagnosis condition	Output driver is successfully configured and TCU is available
				Signal (terminal)	SOS call switch signal
				Threshold	Short circuit to ground detected by output driver that detected in OFF state.
				Diagnosis delay time	First ocurrence reported by driver
	12		CIRCUIT SHORT TO BATT	Diagnosis condition	Output driver is successfully configured and TCU is available
				Signal (terminal)	SOS call switch signal
				Threshold	Short circuit to battery detected by output driver taht detected in ON state.
				Diagnosis delay time	First ocurrence reported by driver
	13		CIRCUIT OPEN	Diagnosis condition	Output driver is successfully configured and TCU is available
				Signal (terminal)	SOS call switch signal
				Threshold	Open load detected by output driver that detected in OFF state.
				Diagnosis delay time	First ocurrence reported by driver

POSSIBLE CAUSE

11 Circuit Short To Ground
- SOS call switch signal circuit short to ground
- TCU
- CAN gateway

12 Circuit Short To Battery
- SOS call switch signal circuit short to battery
- TCU
- CAN gateway

13 Circuit Open
- SOS call switch signal circuit open
- TCU
- CAN gateway

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Press and release the SOS switch.
3. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3007” detected?

YES >> Refer to LAN-185, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013819600

B3007-11

1.CHECK SOS CALL SWITCH SIGNAL CIRCUIT (SHORT TO GROUND)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN gateway
- TCU
3. Check continuity between CAN gateway harness connector and ground.

CAN gateway		Ground	Continuity
Connector	Terminal		
M217	10	—	Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness.

2.CHECK SOS CALL SWITCH SIGNAL

1. Connect the following unit connectors.
- CAN gateway
2. Turn ignition switch ON.
3. Check voltage between CAN gateway harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN gateway		Ground	
Connector	Terminal		
M217	10	—	More than 0.6 V

Is the inspection result normal?

YES >> Replace TCU. Refer to AV-459, "Removal and Installation".
NO >> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

B3007-12

1.CHECK SOS CALL SWITCH SIGNAL CIRCUIT (SHORT TO BATTERY)

1. Disconnect the following unit connectors.
- CAN gateway
- TCU
2. Check voltage between CAN gateway harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN gateway		Ground	
Connector	Terminal		
M217	10	—	0 V

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness.

2.CHECK SOS CALL SWITCH SIGNAL

1. Connect the following unit connectors.
- CAN gateway
2. Turn ignition switch ON.
3. Check voltage between CAN gateway harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN gateway		Ground	
Connector	Terminal		
M217	10	—	Less than 5.0 V

Is the inspection result normal?

YES >> Replace TCU. Refer to AV-459, "Removal and Installation".
NO >> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

B3007-13

1.CHECK HARNESS CONNECTOR CONNECTION

1. Turn the ignition switch OFF.
2. Check the following harness connector for disconnection or looseness.
- CAN gateway
- TCU

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK SOS CALL SWITCH SIGNAL CIRCUIT (OPEN)

1. Disconnect the following unit connectors.
- CAN gateway
- TCU
2. Check continuity between CAN gateway harness connector and the following unit harness connector.
- TCU

CAN gateway – TCU

CAN gateway		TCU		Continuity
Connector	Terminal	Connector	Terminal	
M217	10	M215	37	Existed

Is the inspection result normal?

YES >> Replace TCU. Refer to AV-459, "Removal and Installation".
NO >> Repair or replace harness.

B3008 VEHICLE SPEED SIGNAL

DTC Description

INFOID:0000000013768182

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
B3008	12	PWM output speed signal has malf (PWM Output SPEED_SIGNAL has a malfunction)	CIRCUIT SHORT TO BATTERY	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	Vehicle speed signal
				Threshold	Short circuit to battery detected by output driver
				Diagnosis delay time	First ocurrence reported by driver
	14		CIRC SHORT TO GRND OR OPEN	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	Vehicle speed signal
				Threshold	Open load or Short to ground detected by output driver
				Diagnosis delay time	First ocurrence reported by driver

POSSIBLE CAUSE

12 Circuit Short To Battery
- Vehicle speed signal circuit short to battery
- Connected unit
- Display control unit
- NAVI control unit (With NAVI system)

14 Circ Short To Grnd Or Open
- Vehicle speed signal circuit short to ground
- Vehicle speed signal circuit open
- Connected unit
- Display control unit
- NAVI control unit (With NAVI system)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3008” detected?

YES >> Refer to LAN-187, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768183

B3008-12

1.CHECK VEHICLE SPEED SIGNAL CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN gateway

- Display control unit
- NAVI control unit (With NAVI system)

3. Check voltage between CAN gateway harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN gateway		Ground	
Connector	Terminal		
M217	11	—	0 V

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness.

2.POSSIBLE CAUSE CONFIRMATION (DISPLAY CONTROL UNIT)

With CONSULT

1. Connect the following unit connectors.
- CAN gateway
- Display control unit
2. Turn the ignition switch ON.
3. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3008” detected?

YES >> Replace display control unit. Refer to AV-239, "Removal and Installation".
NO >> GO TO 3.

3.POSSIBLE CAUSE CONFIRMATION (NAVI CONTROL UNIT)

NOTE:
NAVI system is not equipped. GO TO 4.

With CONSULT

1. Turn the ignition switch OFF.
2. Connect the following unit connectors.
- NAVI control unit
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3008” detected?

YES >> Replace NAVI control unit. Refer to AV-241, "Removal and Installation".
NO >> GO TO 4.

4.REPLACE CAN GATEWAY

>> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

B3008-14

1.CHECK HARNESS CONNECTOR CONNECTION

1. Turn the ignition switch OFF.
2. Check the following harness connector for disconnection or looseness.
- CAN gateway
- Display control unit
- NAVI control unit (With NAVI system)

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK VEHICLE SPEED SIGNAL CIRCUIT (OPEN)

1. Disconnect the following unit connectors.
- CAN gateway

- Display control unit
- NAVI control unit (With NAVI system)

2. Check continuity between CAN gateway harness connector and the following unit harness connector.

- Display control unit
- NAVI control unit (With NAVI system)

CAN gateway – Display control unit

CAN gateway		Display control unit		Continuity
Connector	Terminal	Connector	Terminal	
M217	11	M52	61	Existed

CAN gateway – NAVI control unit

CAN gateway		NAVI control unit		Continuity
Connector	Terminal	Connector	Terminal	
M217	11	M163	7	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness.

3. CHECK VEHICLE SPEED SIGNAL CIRCUIT (SHORT TO GROUND)

1. Check continuity between CAN gateway harness connector and ground.

CAN gateway		Ground	Continuity
Connector	Terminal		
M217	11	—	Not existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4. POSSIBLE CAUSE CONFIRMATION (DISPLAY CONTROL UNIT)

With CONSULT

1. Connect the following unit connectors.

- CAN gateway
- Display control unit

2. Turn the ignition switch ON.
3. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3008” detected?

YES >> Replace display control unit. Refer to AV-239, "Removal and Installation".
NO >> GO TO 5.

5. POSSIBLE CAUSE CONFIRMATION (NAVI CONTROL UNIT)

NOTE:
NAVI system is not equipped. GO TO 6.

With CONSULT

1. Turn the ignition switch OFF.
2. Connect the following unit connectors.

- NAVI control unit

3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3008” detected?

YES >> Replace NAVI control unit. Refer to AV-241, "Removal and Installation".
NO >> GO TO 6.

6. REPLACE CAN GATEWAY

>> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

B3009 ILLUMINATION CONTROL SIGNAL

DTC Description

INFOID:0000000013768184

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
B3009	12	PWM output ill cont has malf (PWM Output ILL_CONT has a malfunction)	CIRCUIT SHORT TO BATTERY	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	illumination control signal
				Threshold	Short circuit to battery detected by output driver
				Diagnosis delay time	First ocurrence reported by driver
	14		CIRC SHORT TO GRND OR OPEN	Diagnosis condition	Output driver is successfully configured
				Signal (terminal)	illumination control signal
				Threshold	Open load or Short-to-GND detected by output driver
				Diagnosis delay time	First ocurrence reported by driver

POSSIBLE CAUSE

12 Circuit Short To Battery
- Illumination control signal circuit short to battery
- Connected unit
- Preset switch

14 Circ Short To Grnd Or Open
- Illumination control signal circuit short to ground
- Illumination control signal circuit open
- Connected unit
- Preset switch

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3009” detected?

YES >> Refer to LAN-191, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768185

B3009-12

1.CHECK ILLUMINATION CONTROL SIGNAL CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following unit connectors.
- CAN gateway
- Preset switch
3. Check voltage between CAN gateway harness connector and ground.

Terminals			Voltage (Approx.)
+		−	
CAN gateway		Ground	
Connector	Terminal		
M217	12	—	0 V

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness.

2.POSSIBLE CAUSE CONFIRMATION (PRESET SWITCH)

With CONSULT

1. Connect the following unit connectors.
- CAN gateway
- Preset switch
2. Turn the ignition switch ON.
3. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3009” detected?

YES >> Replace preset switch. Refer to AV-242, "Removal and Installation".
NO >> GO TO 3.

3.REPLACE CAN GATEWAY

>> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

B3009-14

1.CHECK HARNESS CONNECTOR CONNECTION

1. Turn the ignition switch OFF.
2. Check the following harness connector for disconnection or looseness.
- CAN gateway
- Preset switch

Is the inspection result normal?

YES >> GO TO 2.
NO >> Securely connect the harness connectors.

2.CHECK ILLUMINATION CONTROL SIGNAL CIRCUIT (SHORT TO GROUND)

1. Check continuity between CAN gateway harness connector and ground.

CAN gateway		Ground	Continuity
Connector	Terminal		
M217	12	—	Not existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness.

3.CHECK ILLUMINATION CONTROL SIGNAL CIRCUIT (OPEN)

1. Check continuity between CAN gateway harness connector and the following unit harness connector.
- Preset switch

CAN gateway – Preset switch

CAN gateway		Preset switch		Continuity
Connector	Terminal	Connector	Terminal	
M217	12	M210	24	Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4. POSSIBLE CAUSE CONFIRMATION (PRESET SWITCH)

With CONSULT

1. Connect the following unit connectors.
- CAN gateway
- Preset switch
2. Turn the ignition switch ON.
3. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “B3009” detected?

YES >> Replace preset switch. Refer to AV-242, "Removal and Installation".
NO >> GO TO 5.

5. REPLACE CAN GATEWAY

>> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".

P0607 CAN GATEWAY

DTC Description

INFOID:0000000013768186

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
P0607	04	CONTROL MODULE (The control unit has a malfunction)	SYSTEM INTERNAL MALFUNCTN	Diagnosis condition	CAN gateway is active
				Signal (terminal)	—
				Threshold	Possible causes to trigger the DTC: - Stack overflow - CPU access
				Diagnosis delay time	Error dependent / DTC set on malfunction detection
	09		COMPONENT MALFUNCTION	Diagnosis condition	CAN gateway is active
				Signal (terminal)	—
				Threshold	Dimmer signal output driver component is malfunction
				Diagnosis delay time	Error Dependent\DTC set on malfunction detection
	42		MEMORY ERROR	Diagnosis condition	CAN gateway is active
				Signal (terminal)	—
				Threshold	Possible causes to trigger the DTC: - RAM hardware error - Code flash error - Data flash error
				Diagnosis delay time	Error dependent / DTC set on malfunction detection
	47		WATCHDOG/SAFETY μC ERROR	Diagnosis condition	CAN gateway is active
				Signal (terminal)	—
				Threshold	Watchdog was triggered
				Diagnosis delay time	On error detection

POSSIBLE CAUSE

04 System Internal Malfunctn
- Internal malfunction

09 Component Malfunction
- Output driver component malfunction
- Connected unit
- Display control unit

42 Memory Error
- RAM / Code / Data flash

47 Watchdog/safety μc Error
- Watchdog malfunction

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “P0607” detected?

YES >> Refer to LAN-195, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768187

P0607-04, P0607-42, P0607-47

1.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn the ignition switch ON.
2. Erase DTC.
3. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “P0607” detected again?

YES >> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".
NO >> INSPECTION END

P0607-09

1.POSSIBLE CAUSE CONFIRMATION

With CONSULT

1. Turn the ignition switch OFF.
2. Disconnect display control unit connector.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CAN GATEWAY”.
   NOTE:
   B3002 will be detected. Erase DTC after replace malfunctioning part.

Is DTC “P0607” detected again?

YES >> Replace CAN gateway. Refer to LAN-218, "Removal and Installation".
NO >> Replace display control unit. Refer to AV-239, "Removal and Installation".

U0019 BODY CAN COMMUNICATION 1

DTC Description

INFOID:0000000013768188

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0019	88	Interior CAN communication (Interior CAN communication has a malfunction)	BUS OFF	Diagnosis condition	Network communication
				Signal (terminal)	CAN communication signal
				Threshold	Bus-off flag of CAN transceiver is set
				Diagnosis delay time	First occurrence / on error

POSSIBLE CAUSE

88 Bus Off
- Body CAN communication 1 has a malfunction
- CAN gateway

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0019” detected?

YES >> Refer to LAN-196, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768189

U0019-88

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the CAN gateway. Refer to LAN-218, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0037 CHASSIS CAN COMMUNICATION

DTC Description

INFOID:0000000013768190

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0037	88	Vehicle communication bus B (Communication with the chassis CAN bus has a malfunction)	BUS OFF	Diagnosis condition	Network communication
				Signal (terminal)	CAN communication signal
				Threshold	Bus-off flag of CAN transceiver is set
				Diagnosis delay time	First occurrence / on error

POSSIBLE CAUSE

88 Bus Off
- Chassis CAN communication has a malfunction
- CAN gateway

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0037” detected?

YES >> Refer to LAN-197, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768191

U0037-88

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the CAN gateway. Refer to LAN-218, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0100 ECM

DTC Description

INFOID:0000000013768192

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0100	87	Communication error (Communication with the control unit "combustion engine" has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication
				Signal (terminal)	CAN communication signal
				Threshold	At least one of messages is missing in the bus
				Diagnosis delay time	According to every specific signal applicationfs requirement

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- ECM

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0100” detected?

YES >> Refer to LAN-198, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768193

U0100-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the ECM. Refer to EC-963, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0122 ELECTRONIC STABILITY PROGRAM CONTROL UNIT

DTC Description

INFOID:0000000013768194

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0122	87	Communication error (Communication with control unit "Traction system" has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication
				Signal (terminal)	CAN communication signal
				Threshold	At least one of messages is missing in the bus
				Diagnosis delay time	According to every specific signal applications requirement

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- Electronic stability program control unit

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0122” detected?

YES >> Refer to LAN-199, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768195

U0122-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the electronic stability program control unit. Refer to BRC-975, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0141 BCM

DTC Description

INFOID:0000000013768196

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0141	87	Communication error (Communication with the front signal acquisition and actuation module has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication
				Signal (terminal)	CAN communication signal
				Threshold	At least one of messages is missing in the bus
				Diagnosis delay time	According to every specific signal applicationfs requirement

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- BCM

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0141” detected?

YES >> Refer to LAN-200, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768197

U0141-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the BCM. Refer to BCS-248, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0147 DISPLAY CONTROL UNIT

DTC Description

INFOID:0000000013768198

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0147	87	Comm ECU audio or comand malf (Communication with control unit "Audio or COMAND" has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication and ACC ON
				Signal (terminal)	AV communication signal
				Threshold	Missing message
				Diagnosis delay time	60 sec before initial sequence. 30 sec after initial sequence (according Technical Requirements)

POSSIBLE CAUSE

87 Missing Message
- AV communication has a malfunction
- Display control unit

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON and wait at least 100 seconds..
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0147” detected?

YES >> Refer to LAN-201, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768199

U0147-87

1.DISPLAY CONTROL UNIT ON-BOARD DIAGNOSIS

1. Turn the ignition switch ON.
2. Perform on-board diagnosis for “Display control unit”. Refer to AV-60, "On Board Diagnosis Function".

Is error detected on self-diagnosis results?

YES >> Perform the trouble diagnosis according to self-diagnosis results. Refer to AV-60, "On Board Diagnosis Function".
NO >> Replace the CAN gateway. Refer to LAN-218, "Removal and Installation".

U0155 COMBINATION METER

DTC Description

INFOID:0000000013768200

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0155	87	COMMUNICATION ERROR (LOST) (Communication with the instrument cluster has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication
				Signal (terminal)	CAN communication signal
				Threshold	At least one of messages is missing in the bus
				Diagnosis delay time	According to every specific signal applications requirement

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- Combination meter

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0155” detected?

YES >> Refer toLAN-202, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768201

U0155-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the combination meter. Refer to MWI-155, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0159 SONAR CONTROL UNIT

DTC Description

INFOID:0000000013768202

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0159	87	Communication error (Communication with PARKTRONIC has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication and sonar system is equipped.
				Signal (terminal)	CAN communication signal
				Threshold	Missing message
				Diagnosis delay time	According to every specific signal applications requirement

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- Sonar control unit

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0159” detected?

YES >> Refer to LAN-203, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768203

U0159-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the sonar control unit. Refer to SN-200, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0163 NAVI CONTROL UNIT

DTC Description

INFOID:0000000013768204

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0163	87	Lost comm navigation control module (Communication with Navigation Control Module has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication and NAVI is equipped and ACC is ON
				Signal (terminal)	AV communication signal
				Threshold	Missing message
				Diagnosis delay time	60 sec before initial sequence. 30 sec after initial sequence (according Technical Requirements)

POSSIBLE CAUSE

87 Missing Message
- AV communication has a malfunction
- NAVI control unit

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON and wait at least 100 seconds.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0163” detected?

YES >> Refer to LAN-204, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768205

U0163-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the NAVI control unit. Refer to AV-241, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0164 A/C AMP.

DTC Description

INFOID:0000000013768206

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0164	87	COMMUNICATION ERROR (LOST) (Communication with the air conditioning has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication
				Signal (terminal)	CAN communication signal
				Threshold	At least one of messages is missing in the bus
				Diagnosis delay time	According to every specific signal applications requirement

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- A/C auto amp.

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0164” detected?

YES >> Refer to LAN-205, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768207

U0164-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the A/C auto amp. Refer to HAC-121, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0168 ELECTRONIC IGNITION SWITCH CONTROL UNIT

DTC Description

INFOID:0000000013768208

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0168	87	COMMUNICATION ERROR (LOST) (Communication with the electronic ignition lock has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication
				Signal (terminal)	CAN communication signal
				Threshold	At least one of messages is missing in the bus
				Diagnosis delay time	According to every specific signal applications requirement

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- Electronic ignition switch control unit

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0168” detected?

YES >> Refer to LAN-206, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768209

U0168-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0198 TCU

DTC Description

INFOID:0000000013779999

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0198	87	Lost comm telematic control module (Communication with the telephone keypad has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication and TCU is equipped.
				Signal (terminal)	CAN communication signal
				Threshold	Missing message
				Diagnosis delay time	2 seconds

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- TCU

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON and wait at least 5 seconds.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0198” detected?

YES >> Refer to LAN-207, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013780000

U0198-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the TCU. Refer to AV-459, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0212 STEERING COLUMN CONTROL MODULE

DTC Description

INFOID:0000000013768210

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0212	87	COMMUNICATION ERROR (LOST) (Communication with the steering column module has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication
				Signal (terminal)	CAN communication signal
				Threshold	At least one of messages is missing in the bus
				Diagnosis delay time	According to every specific signal applicationfs requirement

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- Steering column control module

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0212” detected?

YES >> Refer to LAN-208, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768211

U0212-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U0252 TRAILER RECOGNITION CONTROL UNIT

DTC Description

INFOID:0000000013768212

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0252	87	Comm trailer malf (Communication with the trailer connection unit has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication and Trailer recognition control unit is equipped.
				Signal (terminal)	CAN communication signal
				Threshold	Missing message
				Diagnosis delay time	300 mseconds

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- Trailer recognition control unit

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON and wait at least 10 seconds.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0252” detected?

YES >> Refer to LAN-209, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768213

U0255 DISPLAY CONTROL UNIT

DTC Description

INFOID:0000000013768214

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U0255	87	Lost communication front display (Communication with the Audio/COMAND display has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication and NAVI is equipped. Or Network communication and Sonar is equipped.
				Signal (terminal)	CAN communication signal
				Threshold	Missing message
				Diagnosis delay time	2 seconds

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- Display control unit

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U0255” detected?

YES >> Refer to LAN-210, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768215

U0255-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the display control unit. Refer to AV-239, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U1038 DIAGNOSTIC CAN COMMUNICATION

DTC Description

INFOID:0000000013768216

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U1038	88	Comm w diagnostic CAN bus has malf (Communication with the diagnostic CAN bus has a malfunction)	BUS OFF	Diagnosis condition	Network communication
				Signal (terminal)	Diagnostic CAN communication
				Threshold	Bus Off flag of CAN transceiver is set
				Diagnosis delay time	First occurrence / on error

POSSIBLE CAUSE

88 Bus Off
- Diagnostic CAN communication has a malfunction
- CAN gateway

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U1038” detected?

YES >> Refer to LAN-211, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768217

U1038-88

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the CAN gateway. Refer to LAN-218, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U105B STEERING COLUMN CONTROL MODULE

DTC Description

INFOID:0000000013768218

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U105B	87	Comm w strng wheel electronics malf (Communication with the steering wheel electronics has a malfunction)	MISSING MESSAGE	Diagnosis condition	Network communication AND ACC ON
				Signal (terminal)	CAN communication signal
				Threshold	Missing message
				Diagnosis delay time	60 sec before initial sequence. 30 sec after initial sequence (according Technical Requirements)

POSSIBLE CAUSE

87 Missing Message
- CAN communication has a malfunction
- Steering column control module

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON and wait at least 100 seconds.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U105B” detected?

YES >> Refer to LAN-212, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768219

U105B-87

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the steering column control module. Refer to BCS-250, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U116A TCU

DTC Description

INFOID:0000000013780002

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U116A	00	Bus keepawake unit was dtctd V-CAN (A bus keepawake unit was detected on the V-CAN)	NO SUBTYPE INFORMATION	Diagnosis condition	TCU is available
				Signal (terminal)	TCU slpeep singnal
				Threshold	TCU keeping bus awake for more than 20 minutes after ignition switch OFF
				Diagnosis delay time	On event

POSSIBLE CAUSE

- TCU
- The situation to obstruct TCU sleep

FAIL-SAFE

- None

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

With CONSULT

1. Turn the ignition switch OFF and wait at least 20 minutes.
2. Turn the ignition switch ON.
3. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U116A” detected?

YES >> Proceed to LAN-213, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000013780003

U116A-00

1.CHECK TCU POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of TCU. Refer to AV-455, "TCU : Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2.DTC CONFIRMATION FOR TCU

With CONSULT

1. Turn the ignition switch ON.
2. Perform self-diagnosis for “TELEMATICS”.

Is any DTC detected?

YES >> Perform the trouble diagnosis according to self-diagnosis results. Refer to AV-420, "DTC Index".
NO >> GO TO 3.

3.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the TCU. Refer to AV-459, "Removal and Installation".

NO >> Repair or replace the malfunctioning parts.

U1900 MULTIFUNCTION MEDIA CAN COMMUNICATION

DTC Description

INFOID:0000000013768220

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U1900	88	Comm w V-CAN bus has malf (Communication with the V-CAN bus has a malfunction)	BUS OFF	Diagnosis condition	Network communication
				Signal (terminal)	CAN communication signal
				Threshold	Bus Off flag of CAN transceiver is set
				Diagnosis delay time	First occurrence / on error

POSSIBLE CAUSE

88 Bus Off
- Multifunction media CAN communication has a malfunction
- CAN gateway

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U1900” detected?

YES >> Refer to LAN-215, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768221

U1900-88

1.CAN COMMUNICATION SYSTEM DIAGNOSIS

Perform the trouble diagnosis for CAN communication system. Refer to LAN-58, "Trouble Diagnosis Flow Chart".

Is the inspection result normal?

YES >> Replace the CAN gateway. Refer to LAN-218, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

U1901 AV COMMUNICATION

DTC Description

INFOID:0000000013768222

DTC DETECTION LOGIC

DTC		CONSULT screen terms (Trouble diagnosis content)	CONSULT screen terms [Malfunction type]	DTC detection condition	
U1901	88	Comm w M-CAN bus has malf (Communication with the M-CAN bus has a malfunction)	BUS OFF	Diagnosis condition	Network communication
				Signal (terminal)	AV communication signal
				Threshold	Bus-off flag of CAN transceiver is set
				Diagnosis delay time	First occurrence / on error

POSSIBLE CAUSE

88 Bus Off
- AV communication has a malfunction
- CAN gateway

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn the ignition switch ON.
2. Perform self-diagnosis for “CAN GATEWAY”.

Is DTC “U1901” detected?

YES >> Refer to LAN-216, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013768223

U1901-88

1.DISPLAY CONTROL UNIT ON-BOARD DIAGNOSIS

1. Turn the ignition switch ON.
2. Perform on-board diagnosis for “Display control unit”. Refer to AV-60, "On Board Diagnosis Function".

Is error detected on self-diagnosis results?

YES >> Perform the trouble diagnosis according to self-diagnosis results. Refer to AV-60, "On Board Diagnosis Function".
NO >> Replace the CAN gateway. Refer to LAN-218, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000013768224

1.CHECK FUSE

Check that the following fuse are not blown.

Signal name	Fuse No.
Battery power supply	55

Is the fuse blown (open)?

YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.
2. Check voltage between CAN gateway harness connector and ground.

Terminals			Condition	Voltage (Standard)	Voltage (Reference value)
(+)		(–)			
CAN gateway		Ground	Ignition switch		
Connector	Terminal				
M218	18		OFF	9 – 16 V	Battery voltage

Is the measurement value normal?

YES >> GO TO 3.
NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the connector of CAN gateway.
3. Check continuity between CAN gateway harness connector and ground.

CAN gateway		Ground	Continuity
Connector	Terminal		
M218	13		Existed

Does continuity exist?

YES >> INSPECTION END
NO >> Repair harness or connector.

REMOVAL AND INSTALLATION

CAN GATEWAY

Removal and Installation

INFOID:0000000013768225

REMOVAL

1. Remove the glove box assembly. Refer to IP-13, "Removal and Installation".
2. Disconnect CAN gateway connector.
3. Remove mounting screw to remove CAN gateway.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

To prevent malfunction, be sure to perform “Read / Write Configuration” when replacing CAN gateway. Refer to LAN-163, "Description".